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195

FENNEMORE CRAIG, P.C.
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3003 North Central Avenue, Suite 2600
Phoenix, Arizona 85012
Telephone: (602) 916-5333
Facsimile: (602) 916-5533
Attorneys for Ajo Improvement Company.

2008 APR 16 A 10:05

AZ CORP COMMISSION
DOCKET CONTROL

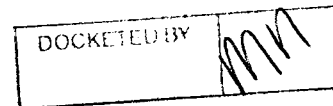
BEFORE THE ARIZONA CORPORATION COMMISSION

IN THE MATTER OF THE APPLICATION
OF AJO IMPROVEMENT COMPANY IN
CONFORMANCE WITH THE
REQUIREMENTS OF ARIZONA REVISED
STATUTES, 40-360.03 AND 40-360.06, FOR
A CERTIFICATE OF ENVIRONMENTAL
COMPATIBILITY AUTHORIZING THE
CONSTRUCTION OF A 230kV
TRANSMISSION LINE AND SUBSTATION
IN MARICOPA AND PIMA COUNTIES,
ARIZONA BETWEEN GILA BEND
SUBSTATION WEST OF GILA BEND TO
THE PROPOSED SUBSTATION NEAR THE
PHELPS DODGE AJO INCORPORATED
MINE A DISTANCE OF APPROXIMATELY
47 MILES

DOCKET NO: L-00000-97-0089^G
CASE NO. 89

Arizona Corporation Commission
DOCKETED

APR 16 2008



**AJO IMPROVEMENT COMPANY'S APPLICATION FOR EXTENSION OF
CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY, REQUEST FOR
EXPEDITED TREATMENT AND, TO THE EXTENT NECESSARY, AN
INTERIM EXTENSION**

Ajo Improvement Company ("AIC") respectfully requests that the time period to construct facilities authorized by the Certificate of Environmental Compatibility ("CEC") approved in Arizona Corporation Commission ("Commission") Decision No. 60841 (April 30, 1998) (the "Decision") be extended to April 29, 2013. A copy of the Decision is attached as **Exhibit 1**.

The Decision granted AIC a CEC to construct a 47-mile 230 kV transmission line

1 from the Gila Bend Substation on the west side of Gila Bend, Arizona, to a proposed
2 substation that would be located near the Phelps Dodge Ajo Incorporated ("PDAI") Mine
3 on the southeast side of Ajo, Arizona. The line will be a single pole design, 82 feet tall,
4 and spaced 500 feet apart. An H-frame design 48 feet tall spaced 300 feet apart will be
5 incorporated into the line but restricted to the area of the Ajo airport. In addition to the
6 authority to construct the line and proposed substation, the Commission authorized AIC to
7 make appropriate modifications to the existing Gila Bend Substation (together, the
8 "Project"). Condition No. 2 of the Decision established that these authorization will
9 expire ten (10) years from the date the CEC is approved by the Commission; provided,
10 however, that AIC shall have the right to apply to the Commission for an extension of this
11 time limitation, which is April 29, 2008.

12 AIC has not yet commenced construction on the Project due to economic factors
13 related to the electric load that would be served by the new transmission line. In 1996,
14 Phelps Dodge Corporation had been working towards re-activating the New Cornelia
15 Branch copper mine in Ajo, Arizona. The Project was identified as the preferred plan to
16 deliver power from the existing Gila Bend Substation required for re-activation. AIC
17 secured (and has maintained) the necessary right-of-way, and a Record of Decision
18 ("ROD") was issued by the United States Department of Interior, Bureau of Land
19 Management on October 22, 1997. A copy of the ROD is attached hereto as **Exhibit 2**.
20 The right-of-way is consistent with utility corridors designated in the Lower Gila South
21 Resource Management Plan (1987), Goldwater Amendment (1990) and the Natural
22 Resource Management Plan for Luke Air Force Range (1986). Approximately 89% of the
23 line would be constructed within these existing utility corridors. AIC also filed an
24 application for a CEC with the Commission on March 5, 1998, which was subsequently
25 approved on April 30, 1998, resulting in the Decision.

26

1 Due to the subsequent drop in copper prices after the Project approvals, it quickly
2 became uneconomic to re-activate of the New Cornelia Branch mine. However, based on
3 economic forecasts by the mine's new owner, Freeport-McMoRan Copper & Gold, Inc.,
4 need for the Project is likely to materialize sometime within the next five (5) years. When
5 operational, the New Cornelia Branch mine can stimulate economic growth and bring
6 opportunity to an economically depressed region of the state. It is vital that AIC retain the
7 authority to construct the Project and provide the mine operator certainty that the
8 necessary power delivery system can be constructed to serve the mine.

9 Therefore, AIC respectfully requests that it be allowed to extend the CEC for five
10 (5) years and not incur the additional expense and delay of filing a new CEC application
11 in the near future when the Project is viable. Furthermore, AIC respectfully requests that
12 this extension be granted on an expedited basis prior to the CEC termination date or, in
13 the alternative, that an interim extension be granted until the Commission can evaluate
14 AIC's Application.

15 RESPECTFULLY SUBMITTED this ^{7th}16 day of April, 2008.

16 FENNEMORE CRAIG

17
18 BY 

19 C. Webb Crockett
20 Patrick J. Black
21 3003 North Central Avenue, Suite 2600
22 Phoenix, Arizona 85012
23 Attorneys for Ajo Improvement Company.

24 ORIGINAL and thirteen (13) copies
25 of the foregoing, were filed
26 this ^{16th}16 day of April, 2008, with:

27 Docket Control Division
28 Arizona Corporation Commission
29 1200 W. Washington St.
30 Phoenix, AZ 85007

1 **COPY** was hand-delivered
2 this 16th day of April to:

3 Lyn Farmer, Chief Administrative Law Judge
4 Hearing Division
5 Arizona Corporation Commission
6 1200 West Washington Street
7 Phoenix, Arizona 85007

8 Christopher Kempley, Chief Counsel
9 Legal Division
10 Arizona Corporation Commission
11 1200 West Washington Street
12 Phoenix, Arizona 85007

13 Ernest G. Johnson, Director
14 Utilities Division
15 Arizona Corporation Commission
16 1200 West Washington Street
17 Phoenix, Arizona 85007

18 Terri Ford, Chief of Telecom and Energy
19 Utilities Division
20 Arizona Corporation Commission
21 1200 West Washington Street
22 Phoenix, Arizona 85007

23 By: Maria San Jose

24 2051932.1/74326.775

Exhibit 1

DOCKETED

APR 30 1998

Before the

DOCKETED BY

CM

ARIZONA POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF)
AJO IMPROVEMENT COMPANY IN)
CONFORMANCE WITH THE REQUIREMENTS)
OF ARIZONA REVISED STATUTES,)
40-360.03 AND 40-360.06, FOR A CERTIFICATE)
OF ENVIRONMENTAL COMPATIBILITY)
AUTHORIZING THE CONSTRUCTION OF A)
230KV TRANSMISSION LINE AND)
SUBSTATION IN MARICOPA AND PIMA)
COUNTIES, ARIZONA BETWEEN GILA BEND)
SUBSTATION WEST OF GILA BEND TO THE)
PROPOSED SUBSTATION NEAR THE)
PHELPS DODGE AJO INCORPORATED MINE)
A DISTANCE OF APPROXIMATELY 47 MILES.)

DOCKET NO. 1-00000-974089

CASE NO. 89

Decision No. 60841

CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

Pursuant to notice given as provided by law, the Power Plant and Transmission Line Siting Committee, (the "Committee") held a public hearing in Hearing Rooms 1 and 2 of the Arizona Corporation Commission, 1200 West Washington, Phoenix, Arizona, on March 5, 1998, in conformance with the requirements of Arizona Revised Statutes §§ 40-360, *et seq.*, for the purpose of receiving evidence and deliberating on the Application of Ajo Improvement Company (AIC) for a Certificate of Environmental Compatibility in the above-captioned case.

The following members and designees of members of the Committee were present for the deliberations and vote on the Application at the March 5, 1998 hearing:

Charles S. Pierson	Chairman, Designee for Arizona Attorney General Grant Woods
Steve Olen	Arizona Corporation Commission
Stephen Ahearn	Arizona Department of Commerce
Greg Workman	Arizona Department of Environmental Quality

1	Arlo B. Lee	Appointed Member
2	Wayne Smith	Appointed Member
3	Jeff Maguire	Appointed Member
4	Martin Sepulveda	Appointed Member
5	Sandie Smith	Appointed Member

6

7 The applicant was represented by Steven M. Wheeler and Lisa A. Schuh of Snell &

8 Wilmer L.L.P., attorneys for Ajo Improvement Company. There were no intervenors or limited

9 appearances of record filed pursuant to A.R.S. § 40-360.05. Letters of support for the project and

10 AIC's Application were received from the Mayor of Gila Bend, President of the Ajo District

11 Chamber of Commerce, Commander of the Pima County Sheriff's Department - Ajo District,

12 Pima County Administrator, Vice Chair of the Pima County Board of Supervisors, Habitat

13 Specialist for the Game & Fish Department, State Historic Preservation Office, President of the

14 Why Ajo Lukeville Development, and Chair of the West Pima County Community Council.

15 Public letters of support for the project were received from the President of the Ajo Country Club,

16 owner of the Copper Kettle Restaurant, the Hotel Cornelia, Del Sur Enterprises, Marceline

17 Marietti, June D. Marcus, Howard and Mary Frazier, Marvin and Barbara Silva, Richard and

18 Henrietta Daniels, Kord and Carol Klinefelter, Eric and June Marcus, Robert and Patricia

19 Hernerway. No letters in opposition to AIC's Application were filed with the Committee.

20 At the conclusion of the hearing, the Committee, having received the Application, the

21 appearance of the AIC, the evidence, testimony and exhibits presented by the AIC, and being

22 advised of the legal requirements of Arizona Revised Statutes §§ 40-360 to 40-360.13, upon

23 motion duly made and seconded, voted unanimously to grant the AIC the following Certificate of

24 Environmental Compatibility (Case No. 89):

Ajo Improvement Company (AIC) is hereby granted a Certificate of Environmental Compatibility (Case No. 89) for authority to construct a 230kV transmission line from the Gila Bend Substation on the west side of Gila Bend, Arizona, to a proposed substation that would be located near the Phelps Dodge Ajo Incorporated (PDAl) Mine on the southeast side of Ajo, Arizona. AIC is also granted authority to construct the proposed substation that would be located near the PDAl Mine near Ajo, Arizona. Finally, the Committee grants authority for construction of appropriate modifications to the existing Gila Bend Substation. The approximate length of the transmission line is 47 miles. The proposed route originates at the Gila Bend Substation and proceeds south across Interstate 8 (I-8) and private lands to the State Route 85 corridor paralleling the existing APS 69kV line to the north side of Ajo. North of Ajo the proposed route proceeds east from the highway corridor along the Barry M. Goldwater Range (BMGR), then turns south and ties into an existing BLM designated utility corridor adjacent to the existing Ajo to Why 69kV subtransmission line. Once the route intersects the Ajo to Why 69kV line, it then parallels the existing Coffee Pot Connection 69kV subtransmission line, also within a designated utility corridor, and proceeds to the proposed AIC Substation. The transmission line shall be located within a routing corridor two thousand feet (2000') in width, the centerline of which is described in AIC's Application and Exhibit A attached hereto and incorporated herein by this reference.

This certificate is granted upon the conditions that:

- (1) the Applicant will comply with all existing applicable air and water pollution control standards and regulations, and will follow all existing applicable ordinances, master plans and regulations of the State of Arizona, the Counties of Maricopa and Pima, the United States, and any other governmental entities having jurisdiction;
- (2) the authorization to construct the project will expire ten (10) years from the date the Certificate is approved by the Arizona Corporation Commission unless construction of the project is completed by that time; provided, however, that the Applicant (or its transferee, assignee or successor) shall have the right to apply to the Arizona Corporation Commission for an extension of this time limitation.


GRANTED this 8th day of April, 1998.

THE POWER PLANT AND TRANSMISSION LINE SITING
COMMITTEE

By Charles S. Pierson
Charles S. Pierson, Chairman

1 APPROVED BY ORDER OF THE ARIZONA CORPORATION COMMISSION

2 
Commissioner-Chairman

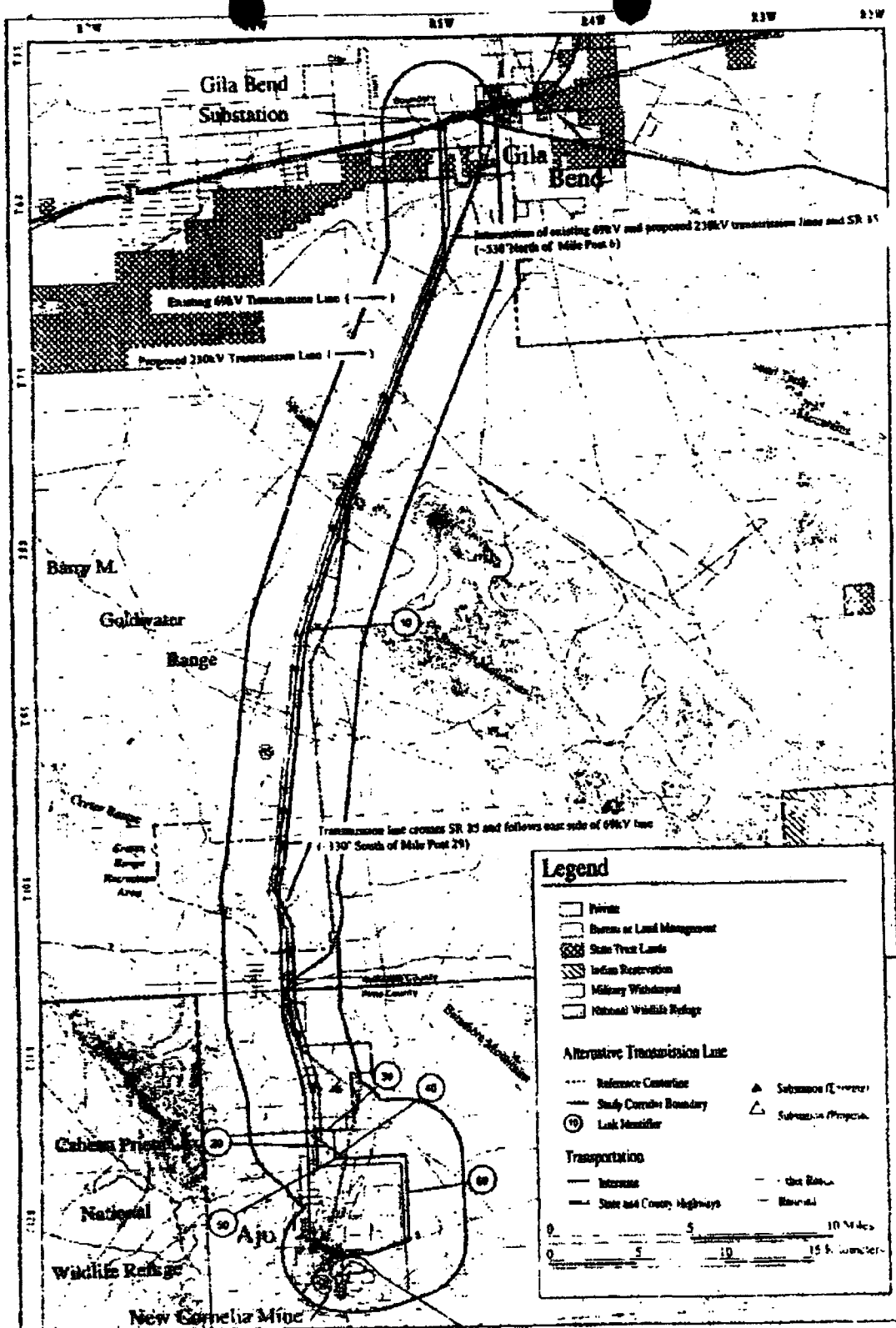
3 
Commissioner

4 
Commissioner

5 In Witness Hereof, I Jack Rose, Executive Secretary of the Arizona Corporation Commission, set
my hand and cause the official seal of this commission to be affixed, this 20th day of
April, 1998.

6 By 
7 Jack Rose
8 Executive Secretary

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DECISION NO. 60841



Jurisdiction

Gila Bend to Ajo
230kV Transmission Line Project

Annotated to Show Routing of Existing 69 kV and
Proposed 230 kV Transmission Lines

Attachment I

Bureau of Land Management
Ajo Improvement Company

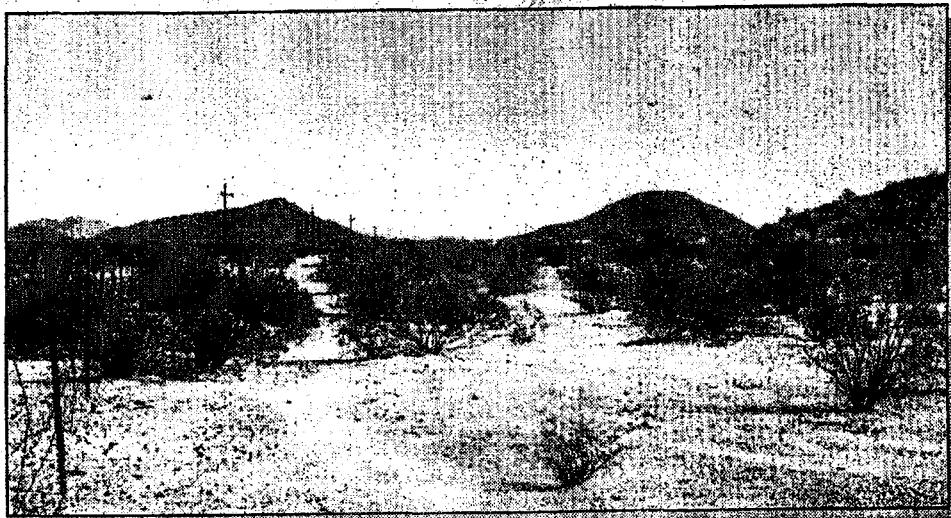
THOMAS & MOORE

Exhibit 2

GILA BEND TO AJO 230kV TRANSMISSION LINE PROJECT

ENVIRONMENTAL ASSESSMENT

EXHIBIT B-2



Prepared for



U.S.D.I. Bureau of Land Management
Phoenix Field Office

Prepared by



DAMES & MOORE

A DAMES & MOORE GROUP COMPANY

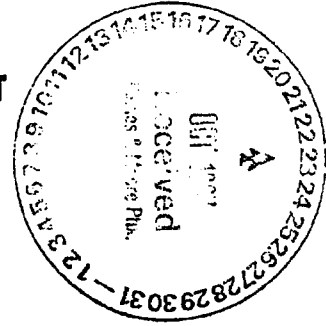
APRIL 1997



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Phoenix Field Office
2015 West Deer Valley Road
Phoenix, AZ 85027-2099



In reply refer to:
2800(020)
AZA-29804

October 22, 1997

Dear Interested Party:

The Bureau of Land management has determined that a right-of-way will be issued for the 230KV transmission line from Gila Bend to Ajo, Arizona as described in the Proposed Action Alternative A of the Environmental Assessment prepared in April, 1997. Enclosed is a copy of The Decision Record with a copy of the Addendum to the Environmental Assessment, the Finding of No Significant Impacts (FONSI) and Form 1842-1 Information on Appeals and Standards for Obtaining a Stay.

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4 and the enclosed Form 1842-1. If an appeal is taken, your notice of appeal must be filed in this office (at the above address) within 30 days of the date of this decision. The appellant has the burden of showing that the decision appealed from is in error. Appeals received by facsimile will not be accepted.

If you wish to file a petition pursuant to regulation 43 CFR 4.21 (58 FR 4939, January 19, 1993) or 43 CFR 2804.1 for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the enclosed Standards for Obtaining a Stay. Copies of the notice of appeal and the petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

If you should have any questions about these procedures please contact David Redmond (602-580-5527).

Sincerely,

Michael A. Taylor
Field Manager

Enclosures

Rediscover Your Public Lands



DECISION RECORD

EA No. AZ-020-97-049

Related No. AZA-29804

Decision: The applied for right-of-way for the Gila Bend to Ajo 230kV transmission line as discussed in the Proposed Action Alternative A, will be granted. Impacts for Alternative A and B are very similar, however, Alternative A has less visual impacts and will be farther from existing residences.

Rationale for Decision:

The applied for right-of-way is within a utility corridor that was established in the Lower Gila Resource Management Plan EIS. There is an existing 69kV transmission line in the corridor.

A Finding of No Significant Impacts (FONSI) resulted from the evaluation of the Proposed Action Alternative A in an environmental assessment.

The proposed right-of-way is within the Barry M. Goldwater Range. To meet concerns of the U.S. Air Force, visual markers will be placed on the wires in accordance with Federal Aviation Administrations regulations.

There will be no significant impacts to any Threatened or Endangered species. The U.S. Fish and Wildlife Service concurred on the "no effect " determination.

Socioeconomic impacts will be minimal from the construction of the power line. Both Ajo and Gila Bend will gain some economic benefit from the construction of the transmission line.

The State Historic Preservation Officer provided concurrence on the survey, eligibility determination and mitigation for cultural resources.

Five tribes were consulted on the project impacts no concerns were identified.

Stipulations:

The Ajo Improvement Company will provide a wildlife biologist monitor, who will arrive at least one hour before construction crews and will remain on site for the entire day. If Pronghorn Antelope are observed no construction activities will take place until the Pronghorn move off to a distance that they will not be disturbed by the construction noise.

A qualified biologist with a State of Arizona permit will sweep the areas of construction looking for desert tortoise. If any desert tortoise are found to be in harms way the biologist will follow the Arizona Game and Fish protocols for moving desert tortoise.

Visual marker will be placed on the wires from the Range 1 gate to a point 2 miles north of Range 2. The markers will conform with the Federal Aviation Administration regulations.

All stipulations provided in the environmental assessment in Table E-1 will be attached to the right-of-way grant.


Phoenix Field Office Manager

10/22/97
Date:

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

Name and Number: ENVIRONMENTAL ASSESSMENT FOR THE GILA BEND TO AJO 230kV TRANSMISSION LINE PROJECT, EA No. AZ-020-97-049

BLM Office: Phoenix Field Office

Finding of No Significant Impact:

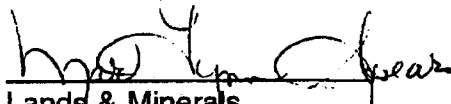
I have reviewed the Gila Bend to Ajo 230kV Transmission Line (Right-of-Way Application) Environmental Assessment and I have determined that the Proposed Action will have no significant impact on the human environment. An environmental impact statement (EIS) is not required.

The ROW is consistent with utility corridors designated in the Lower Gila South Resource Management Plan (1987), Lower Gila South Resource Management Plan (Goldwater Amendment 1990), and the Natural Resources Management Plan for Luke Air Force Range (1986). Approximately 89% of the proposed transmission line would be constructed within this corridor.

The EA analyzed issues identified through scoping comments made by the public and interdisciplinary team members. The analysis found that these critical elements or concerns are not present or would not be affected by the proposed action: wilderness areas, wild and scenic rivers, areas of critical environmental concern, wetlands or riparian zones, ground or surface water quality, floodplains, electrical magnetic fields and hazardous and solid waste.

Through appropriate inventories, data collection and analysis, the interdisciplinary team found no significant direct, indirect or cumulative impacts for land use, visual resources, cultural resources, biological resources including special wildlife and plant species, socioeconomics, earth and soil resources, and air quality and noise. Through analysis and consultation, no Native American concerns were identified for the project or for traditional cultural properties. No low income or minority groups would be disproportionately affected.

Determination of Finding:


Lands & Minerals
Group Administrator

Date

10/15/97

Approved of Finding:


Phoenix Field Office Manager

Date

10/22/97



Jane Dee Hull
Governor

**STATE PARKS
BOARD MEMBERS**

Chairman
Joseph H. Holmwood
Mesa

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J. Dennis Wells
State Land
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Executive Director

Charles R. Eatherly
Deputy Director

1300 West Washington
Phoenix, Arizona 85007
Tel & TTY: 602-542-4174
1-800-285-3703
from (520) area code
<http://www.pr.state.az.us>

General Fax:
602-542-4180

Director's Office Fax:
602-542-4188

September 24, 1997

OFFICIAL FILE COPY

Return to Central Files

Michael Taylor, Field Manager
Bureau of Land Management
Phoenix Field Office
2015 W. Deer Valley Road
Phoenix, Arizona 85027

RE: Maricopa and Pima Counties; Proposed 230kv Transmission Line from the Gila Bend Substation to the New Cornelia Mine; DOD-AF and BLM

Dear Mr. Taylor,

Your letter addressing the issues raised in my previous letter regarding the above-referenced undertaking was received in this office on September 5. Regrettably, I was not able to review the matter until recently. I hope this has not unduly delayed your NEPA review process.

Your letter indicates that test excavations will precede construction at two sites, AZ Z:9:17 and 18 (ASM), where poles will be placed in the core area rather than the periphery of the site. Construction in the vicinity of three other sites (AZ Z:1:37, and Z:5:55 and 64) will be monitored by a qualified archaeologist. This strategy follows guidance provided by this office.

You provided a discussion of archaeological context for the prehistoric sites in the project area, prepared by J. Simon Bruder. As noted in my previous letter, context is a necessary component of any evaluation of eligibility. Carol Shull, Keeper of the National Register of Historic Places, and her staff have asked that State Historic Preservation Offices nationwide reemphasize the importance of theme and context in reaching consensus determinations of eligibility in the Section 106 process. Dr. Bruder's *Supplemental Discussion* will be attached to the report and placed in our library.

Please be assured that the SHPO appreciates the impossibility of requiring final engineering of a transmission line in advance of obtaining a right-of-way. In this instance, however, the many references in the report to the possibility of either *no effect* by virtue of avoidance or *mitigation* if the site(s) cannot be avoided suggested that there was greater than usual uncertainty about the location of the new line. You also addressed the issue of impacts arising from routine maintenance activities, a part of project effect, on the archaeological sites. We encourage you to include provision for continued avoidance of impacts to sites in the right-of-way as approved, in any locations where monitoring or testing "reveals sensitive buried remains."

Finally, you have determined that this undertaking will have no adverse effect on historic properties; we concur with that assessment.

As always, your cooperation with this office in considering the impacts of federal undertakings on historic preservation is greatly appreciated. If you have questions or concerns, please call me at (602) 542-7137 or 542-4009.

Sincerely,

Carol Heathington
Compliance Specialist
State Historic Preservation Office



DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

8 Jul 97

56 Fighter Wing Range Management Office
56 RMO/ESMP
6605 North 140th Drive
Luke AFB AZ 85309-1934

David Redmond
Project Manager
Bureau of Land Management
Phoenix Field Office
2015 West Deer Valley Road
Phoenix AZ 85027-2099

Dear Mr. Redmond,

Thank you for the opportunity to review the April 1997 Environmental Assessment regarding the installation of a 230kW transmission line from Gila Bend to Ajo, Arizona. Our review comments are attached.

The transmission line will not interfere with flying operations if kept below 100 feet in total height, but we will require visual markers be installed in areas where low-altitude flights occur, to ensure continued flight safety. Markers should be installed in accordance with Federal Aviation Administration requirements, from the Range 1 gate to a point two miles north of the Range 2 gate.

We are still awaiting final review of this document by our staff archaeologist, as requested by the State Historic Preservation Office, Carol Heathington. A copy of these comments will be forwarded to you at a later date.

Please call me at (602) 856-8791 if you have any questions.

Sincerely

A handwritten signature in cursive script, reading "Linda J. Woestendiek", is positioned above the typed name.

LINDA J. WOESTENDIEK
Natural Resources Planner, BMGR

Attachment:
Luke AFB Comments



OFFICIAL FILE COPY
United States Department of the Interior
Fish and Wildlife Service
Arizona Ecological Services Field Office



In Reply Refer To:
AESO/ES
2-21-97-I-055
CCN 970782

2321 W. Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
(602) 640-2720 Fax (602) 640-2730

September 12, 1997

MEMORANDUM

TO: Field Manager, Phoenix Field Office, Bureau of Land Management, Phoenix, Arizona

FROM: Field Supervisor

SUBJECT: Request for Concurrence with the Determination of Effects of the Gila Bend to Ajo 230 kV Transmission Line Project

This memorandum is in response to your request for concurrence with the revised biological evaluation on the Gila Bend to Ajo 230 kV transmission line received in our office on September 11, 1997. The Bureau of Land Management is considering an application from the Ajo Improvement Company (AIC) for a powerline right-of-way from Gila Bend to Ajo. AIC proposes building and operating a 230 kV line to provide electrical service to the Phelps Dodge Ajo, Incorporated (PDAI) mine reopening project. The proposed powerline would extend 47 miles from a substation west of Gila Bend south between the existing 69 Kv line and Highway 85 to a substation in Ajo. The line would be a single-pole design, 82 feet tall, spaced 500 feet apart. An H-frame design 48 feet tall spaced 300 feet apart will be incorporated into the line but restricted to the area of the Ajo airport.

The BLM evaluated the effects of the proposed action including interdependent and interrelated actions and determined that the proposed project may affect but is not likely to adversely affect Sonoran pronghorn (*Antilocapra americana sonoriensis*), lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*), and cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*). The BLM has determined that the reopening mine will remain in the current footprint of the mine and that no suitable habitat exists within the footprint of the mine for either Sonoran pronghorn, lesser long-nosed bat, or cactus ferruginous pygmy-owl. Surveys were done for cactus ferruginous pygmy-owls in the area of the powerline construction where potential habitat exists and none were found. The construction site is not within line of a known roost and foraging habitat and only minimal foraging habitat exists within the construction site. During construction of the power line, a biological monitor will arrive at the construction site at least one hour before the construction crew arrives and will remain on site for the entire day to observe for pronghorn. If pronghorn are observed, construction will be suspended until the animals move off on their own. Construction if necessary will be suspended or the location or timing of work will be altered depending on the proximity of pronghorn to the project.

The Fish and Wildlife Service (Service) has reviewed the revised biological evaluation and concurs with the BLM's determination that the proposed project may affect but is not likely to adversely affect Sonoran pronghorn, lesser long-nosed bat, and cactus ferruginous pygmy-owl.

If there are any questions or if we can be of further assistance, please contact Lorena Wada or Ted Cordery.

A handwritten signature in cursive script, appearing to read "Stan F. Spiller".

Field Supervisor

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (GMA)

ADDENDUM
GILA BEND TO AJO 230kV TRANSMISSION LINE
ENVIRONMENTAL ASSESSMENT

Modifications to the Gila Bend to Ajo 230kV Transmission Line Project Environmental Assessment (April 1997) are presented below in bold type. Following the modifications, additional information is provided in general response to questions and comments regarding the EA.

MODIFICATIONS

Page numbers noted below refer to the EA for the Gila Bend to Ajo 230kV Transmission Line Project.

<u>Page Number</u>	<u>Modification</u>
1-1	Paragraph 4, second sentence, should be corrected to state: "The proposed transmission line is consistent with the management direction and multiple management framework described in the BLM's Lower Gila South Resource Management Plan and Environmental Impact Statement (1985)."
2-1	Paragraph 1, second sentence, should be corrected to state: "The right-of-way requested is 100 feet wide and approximately 47 miles long, with a term of 30 years."
2-1	Paragraph 2, second sentence, should be corrected to state: "The proposed route is located in designated utility corridors on BLM administered lands for approximately 41.3 miles or 89 percent of the overall project length (Figure 2)."
2-1	Paragraph 3, sixth sentence, should be corrected to state: The majority of the structure locations would be accessed using the existing transmission lines access roads, so there would be limited new overland access.
2-1	Paragraph 5, first sentence, delete: (no blading for new access roads unless authorized by the BLM).
2-6	Paragraph 1, delete third sentence: No blading for new access roads would be allowed unless approved by BLM.
2-6	Paragraph 3, second sentence, replace topping with Pruning.
3-1&3-2	Paragraph 4, replace fourth sentence with: The BMGR is administered by the 56th Fighter Wing, Range Management Office, at Luke Air Force Base.

September 5, 1997

- 3-2 Paragraph 2, second sentence, should be corrected to state: "As the route extends south through the BMGR, land uses within the study corridor include air and ground military maneuvers, closed airfields, munitions storage sites (at Gila Bend Air Force Auxiliary Field), and target approach corridors."
- 3-2 Paragraph 4, fifth sentence, replace 20-year with 15-year.
- 3-9 Paragraph 2, first sentence, should be corrected to state: "Nine special status wildlife species were identified as potentially occurring within the study area (AGFD 1996; BLM 1996a; USFWS 1996)."
- 3-9 Paragraph 2, insert after first sentence: **However, after consultation with BLM specialists, it was determined that the California leaf-nosed bat and the bald eagle would not require further analysis because there is a lack of suitable habitat.**
- 3-9 Paragraph 2, second sentence, should be corrected to state: "The seven special status wildlife species potentially occurring within the study area are described below."
- 4-12 Table 1, second entry of present projects, correct description to state: "Luke Air Force Base's current 15-year withdrawal terminates in the year 2001; renewal is being actively pursued."
- 5-1 Column 1, first listing under Federal, should be corrected to state: "U.S. Air Force - Luke Air Force Base, Glendale, Arizona."
- D-1 Paragraph 1, delete second and third sentences: **The mitigation measures in Table D-1 are applied to the entire project. The measures in Table D-2 are primarily applied at the site specific locations where initial impacts are anticipated to be moderate or high.**
- D-2 and 3 Table D-1 should be moved from Appendix D to Appendix E and renamed from Standard Mitigation Measures to **Table E-2, Standard Industry Operating Procedures.**
- D-4 Table D-2 should be referred to as **Table D-1.**
- E-1 Appendix E, Standard Operating Procedures, should be referred to as **Table E-1.**

September 5, 1997

GENERAL RESPONSES

1. Alternatives Considered and Eliminated

Comment: The EA fails to consider a range of reasonable alternatives. The BLM must analyze reasonable alternatives, even if they are beyond BLM's jurisdiction to implement.

Response: The determination and delineation of alternatives to be considered for evaluation is outlined in 40 CFR 1502.14 (a) and (c), and states: "Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated." Further, "include reasonable alternatives not within the jurisdiction of the lead agency."

Alternatives were evaluated based on how effectively the alternative would meet the purpose and need of the proposed project, conform to planning guidelines established in the BLM's Lower Gila South Resource Management Plan (1987) and BLM's Lower Gila South Resource Management Plan (Goldwater Amendment 1990), and minimize impacts to the environment. The description of the purpose and need states that the proposed transmission line would provide economical and reliable power for copper ore mining, milling, and concentrating operations at the mine. The range of alternatives considered included transmission, generation, and a combination of transmission and generation.

Alternative power sources were evaluated based on quality and reliability. The 230kV-transmission line alternatives and the generation alternatives would fulfill the power quality and reliability needs of the proposed mining operations at the Phelps Dodge Ajo, Inc. Mine.

A second 69kV power line would not meet the power quality and reliability need because an analysis of load flows indicated a second 69kV line would result in distribution system flicker problems and voltage drop levels from inrush to start large motors for the sag mill and ball mills. The power quality problems associated with the second 69kV line are directly related the location of the Gila Bend Substation on the fringe area of the electrical grid system, which does not benefit from full grid support. In summary, the 230kV transmission line alternative and the generation alternative would provide a reliable quality power source for the proposed mining operations at the Phelps Dodge Ajo, Inc. Mine and a second 69kV line would not.

The economic considerations of each alternative were evaluated based on estimated costs provided in a table format by the Ajo Improvement Company (AIC) that described the alternatives, economics, and key issues of each alternative. The 230kV transmission line alternative was the least expensive alternative, while the generation alternative and the combination of transmission and generation alternative were two to three times more expensive than the 230kV transmission line alternative.

The analysis of alternatives that are beyond the BLM's jurisdiction occurred similar to the analysis described above. The 230kV transmission line alternative selected as the proposed alternative maximized the use of the utility corridor designated in the BLM's Lower Gila South Resource Management Plan (RMP 1987). It should be noted that an EIS was prepared for the RMP. Further, 230kV alternatives in

September 5, 1997

addition to the proposed action, identified beyond the BLM's jurisdiction (i.e., Tohono O'odham Nation), did not utilize a designated utility corridor, reduce environmental impact, or have economic advantages, and were not analyzed in the detailed evaluation for these reasons.

In summary, for the Alternatives Considered and Eliminated section of Chapter 2 of the EA the level of analysis conducted and presented is of sufficient detail for the decision makers to determine whether to issue a right-of-way.

2. Impacts Analyzed in the EA

Comment: The EA fails to account adequately for the environmental impacts of the proposed project together with other reasonably foreseeable projects, and the EA fails to take a hard look at the impacts of reopening the Phelps Dodge Ajo Inc. Mine (PDAI).

Response: The Cumulative Effects section of Chapter 4 of the EA analyzed the proposed action with projects that were considered past, present, and reasonably foreseeable future actions. There were three projects identified through comments that are adjacent to the study area that were not included in the cumulative impact analysis including the Yuma Training Range Complex Amendments (YTRC Amendments) Final EIS, FAA Air Route Surveillance Radar Facility (ARSRF) Draft EA, and Cabeza Prieta NWR Draft Comprehensive Management Plan. All three of these projects were considered but not included in the cumulative impact analysis because of the anticipated indiscernible impacts associated with these projects.

The YTRC Amendment's Final EIS evaluated impacts to air space and natural and human resources for the western portion of the Barry M. Goldwater Range up to the Cabeza Prieta NWR. The current operations occur biannually for a total of 12 days, and the proposed action for the YTRC would increase the operations to at least 60 days biannually. The status of the proposed amendment is not confirmed, and therefore an analysis will not be conducted for increased operations. With respect to the existing operations, nondistinguishable effects are anticipated to occur to the natural and human environment when combined with the proposed action.

The ARSRF Draft EA proposes to utilize existing infrastructure at the existing Childs Mountain Radar and Communications Site. From the project area the existing facilities are subordinate to the project setting, and therefore, were not included in the cumulative impact analysis. A similar set of circumstances exist for the Cabeza Prieta NWR Draft Comprehensive Management Plan. The management plan describes a framework for management of resources and recreation activities. The plan describes one action, an interpretive overlook at Childs Mountain, that had the potential to be visible from the study area. Although, because of the use of existing access and facilities at Childs Mountain, this proposed action would be visually subordinate to the project setting and was not included in the cumulative impact analysis.

With regard to the mine reopening, the proposed action for this project is to obtain a right-of-way grant to construct, operate, and maintain a 230kV single circuit transmission line between the Gila Bend

September 5, 1997

Substation west of Gila Bend to the proposed AIC Substation at the PDAI in Ajo. Direct, indirect, and cumulative impacts were addressed for the proposed alternative with respect to obtaining a right-of-way grant.

The future mine operation was analyzed as a reasonably foreseeable future project that would occur irrespective of the proposed action. As indicated in the description of the no-action alternative, the right-of-way application would not be approved and the 230kV transmission line would not be built resulting in the loss of an economical and reliable power source. AIC would pursue other power options for operations at the PDAI Mine. It has been determined that a sufficient level of detail regarding anticipated cumulative impacts as it relates to the future mine operations has been provided for the decision maker to determine whether to issue a right-of-way grant.

3. Compliance with Current Management Plans

Comment: The EA fails to ensure compliance with FLPMA and the current management plans.

Response: Planning guidelines established in the BLM's Lower Gila South Resource Management Plan and Environmental Impact Statement (1985) and BLM's Lower Gila South Resource Management Plan (Goldwater Amendment 1990) was the basis for establishing alternatives for the proposed project. The 230kV alternative selected as the preferred alternative maximizes the use of the utility corridor designated in the BLM's Lower Gila South Resource Management Plan. Less than two miles or four percent of the total distance of the preferred alternative is not located in a designated utility corridor on lands administered by the BLM. In the EA, Alternative A was created to avoid potential significant visual and land use impacts to residences located on private lands adjacent to the existing utility corridor. This alternative was reinforced through public comment received on the Draft EA that requested the decision maker to select Alternative Route A. This alternative route segment is located outside of a designated utility corridor and farther from the residences resulting in reduced visual impacts, which was one of the residences main concerns. The Lower Gila South Resource Management Plan allows for such actions through a case-by-case evaluation policy regarding rights-of-way and other land actions.

September 5, 1997

**GILA BEND TO AJO
230kV TRANSMISSION LINE PROJECT**

Environmental Assessment

AZ-020-97-049

Prepared for

**U.S.D.I. Bureau of Land Management
Phoenix Field Office**

Prepared by

Dames & Moore

April 1997

TABLE OF CONTENTS

Chapter 1 - Introduction	1- 1
Background	1- 1
Purpose and Need for the Proposed Action	1- 1
Conformance with Resource Management Plans	1- 1
Relationship to Statutes, Regulations, and Other Plans	1- 2
Chapter 2 - Description of the Proposed Action and Alternatives	2- 1
Proposed Action Alternative	2- 1
No-action Alternative	2- 7
Alternatives Considered But Eliminated	2- 7
Chapter 3 - Affected Environment	3- 1
Introduction	3- 1
General Project Setting	3- 1
Land Use	3- 1
Visual Resources	3- 5
Cultural Resources and Native American Concerns	3- 7
Biological Resources	3- 8
Socioeconomics	3-10
Earth and Water Resources	3-11
Air Quality and Noise	3-12
Chapter 4 - Environmental Consequences	4- 1
Introduction	4- 1
Land Use	4- 1
Visual Resources	4- 3
Cultural Resources and Native American Concerns	4- 5
Biological Resources	4- 6
Socioeconomics	4- 8
Earth and Water Resources	4- 9
Air Quality and Noise	4-10
Cumulative Effects	4-11
Chapter 5 - Consultation and Coordination	5- 1
Agencies and Organizations Consulted	5- 1
Appendices	
A - References	E - Standard Operating Procedures
B - Cultural Resources	F - Public Contact Information
C - Biological Resources	G - List of Preparers and Contributors
D - Mitigation Measures	H - Visual Resources

LIST OF FIGURES

1	Project Location	2- 2
2	Utility Corridors	2- 3
3	Alternative Route(s)	2- 4
4	Typical Structures	2- 5
5	Jurisdiction	3- 3
6	Existing Land Uses	3- 4

LIST OF TABLES

1	Cumulative Projects in the Gila Bend to Ajo 230kV Transmission Line Project Study Area	4-12
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CHAPTER 1 - INTRODUCTION

BACKGROUND

Ajo Improvement Company (AIC), a subsidiary of Phelps Dodge Corporation, is applying for a right-of-way grant for the construction and operation of a 230 kilovolt (kV) transmission line from the Gila Bend Substation on the west side of Gila Bend, Arizona, to a proposed substation that would be located near the Phelps Dodge Ajo Incorporated Mine (PDAI Mine) on the southeast side of Ajo, Arizona. The project is referred to as the proposed Gila Bend to Ajo 230kV Transmission Line Project. An in-service operating date of 1999 has been proposed for the Gila Bend to Ajo 230kV Project. PDAI is planning to reopen the mine and as a result has identified the need for additional electrical power requirements. After an evaluation of several possible sources of additional electrical capacity, AIC determined that a 230kV transmission line from the Gila Bend Substation to Ajo would best meet the purpose and need. AIC has requested a right-of-way on federal lands (Bureau of Land Management [BLM]) for the proposed project, which will require BLM to comply with the National Environmental Policy Act of 1969 (NEPA) to consider granting the application. The Phoenix Field Office of the BLM is the federal agency responsible for preparing the environmental assessment (EA) in compliance with NEPA.

PURPOSE AND NEED FOR THE PROPOSED ACTION

AIC proposes to construct a 230kV transmission line between the Gila Bend Substation located west of Gila Bend, Arizona, and a proposed substation that would be located at the PDAI Mine in Ajo, Arizona. The proposed transmission line would provide economical and reliable power for copper ore mining, milling, and concentrating operations at the mine.

The proposed PDAI Mine operations would require approximately 45 megawatts (MW) of reliable power to support the proposed operations. The existing Arizona Public Service (APS) 69kV subtransmission line that provides power to the community of Ajo has a capacity of 25 MW. The existing 69kV line would not have the capacity to serve the required 45 MW load for the mining operations. In order to supply an economical and reliable power source to the PDAI Mine, AIC proposes to construct a 230kV transmission line that would have the capacity to supply 45 MW for normal operation.

CONFORMANCE WITH RESOURCE MANAGEMENT PLANS

The BLM (Phoenix Field Office) is the lead federal agency for this EA. The proposed transmission line is consistent with the management direction and multiple use management framework described in BLM's Lower Gila South Resource Management Plan (1987), BLM's Lower Gila South Resource Management Plan (Goldwater Amendment 1990), and the Natural Resources Management Plan for Luke Air Force Range (1986). The proposed project complies with standards and guidelines specified in the Resource Management Plans (RMPs), including the placement of 89 percent of the proposed transmission line in BLM designated utility corridors.

RELATIONSHIP TO STATUTES, REGULATIONS, AND OTHER PLANS

This document is being prepared in compliance with federal guidelines including NEPA and the Council of Environmental Quality Implementation Procedures outlined in Part 40 of the Code of Federal Regulations and Department of Interior and BLM policies and manuals. These guidelines were developed to direct the planning process when designating right-of-way on BLM lands. The environmental planning, consultation, and impact assessment processes have been conducted to comply with all applicable policies and programs of federal, state, and local agencies.

CHAPTER 2

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

PROPOSED ACTION ALTERNATIVE

For the proposed action alternative the BLM would issue to AIC a right-of-way grant to construct, operate, and maintain a 230kV single circuit transmission line between the Gila Bend Substation west of Gila Bend to the proposed AIC Substation at the PDAI Mine in Ajo, Arizona (Figure 1). The right-of-way requested is 100 feet wide and approximately 47 miles long. It is proposed that the transmission line would be located primarily within BLM utility corridors, adjacent to the existing APS Gila Bend to Ajo 69kV subtransmission line and State Route 85 right-of-way.

This alternative route originates at the Gila Bend Substation and proceeds south across Interstate 8 (I-8) and private lands to the State Route 85 corridor paralleling the existing 69kV line within a designated BLM utility corridor to the north side of Ajo. The proposed route is located in designated utility corridors for approximately 41.3 miles or 89 percent of the overall project length (Figure 2). North of Ajo the proposed transmission line alignment proceeds east from the highway corridor. It is in this area of the proposed project that there are two alternative route segments (A and B) for the main proposed transmission line route (Figure 3, inset A). The two alternatives were developed to avoid residential properties that are adjacent to the highway corridor and parallel to the Gila Bend to Ajo 69kV subtransmission line. Alternative A parallels the Barry M. Goldwater Range (BMGR) north of Ajo and then turns south and ties into an existing BLM utility corridor adjacent to the existing Ajo to Why 69kV subtransmission line. Alternative B is a direct diagonal route from State Route 85 to the intersection with the Ajo to Why 69kV subtransmission line. Both alternatives are on lands administered by BLM. Once the route intersects the Ajo to Why 69kV line, it parallels the existing Coffee Pot Connection 69kV subtransmission line, within a designated utility corridor, and proceeds to the proposed AIC Substation.

The transmission line will be constructed using primarily single wooden pole structures. In the vicinity of the Ajo Municipal Airport, wooden two-pole H-frame structures are proposed. See Figure 4 for an illustration of both structures. Typically, the single pole structures would be approximately 82 feet above ground and spaced approximately 500 feet apart. The H-frame structures would be approximately 48 feet above ground and spaced approximately 300 feet apart. The proposed structure locations would be accessed using the existing transmission lines access roads, so there would be limited new overland access. The design, construction, operation, and maintenance of the proposed project would meet or exceed the requirements of the National Electric Safety Code and U.S. Department of Labor Occupational Safety and Health Standards.

During the preconstruction phase, a specific plan of development will be prepared to include mitigation measures (Appendix D) and standard operating procedures (Appendix E). Both would be implemented throughout the life of the project in order to reduce potential adverse environmental impacts.

Construction would last 9 to 12 months and will include overland access (no blading for new access roads unless authorized by the BLM), structure site clearing, digging holes, assembling and erecting structures, wire stringing, cleanup, and site reclamation. Operation and maintenance will be conducted throughout the life of the project. Provided below is a summary description of key construction aspects.

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The transmission line will be constructed using primarily single wooden pole structures. In the vicinity of the Ajo Municipal Airport, wooden two-pole H-frame structures are proposed. See Figure 4 for an illustration of both structures. Typically, the single pole structures would be approximately 82 feet above ground and spaced approximately 500 feet apart. The H-frame structures would be approximately 48 feet above ground and spaced approximately 300 feet apart. The proposed structure locations would be accessed using the existing transmission lines access roads, so there would be limited new overland access. The design, construction, operation, and maintenance of the proposed project would meet or exceed the requirements of the National Electric Safety Code and U.S. Department of Labor Occupational Safety and Health Standards.

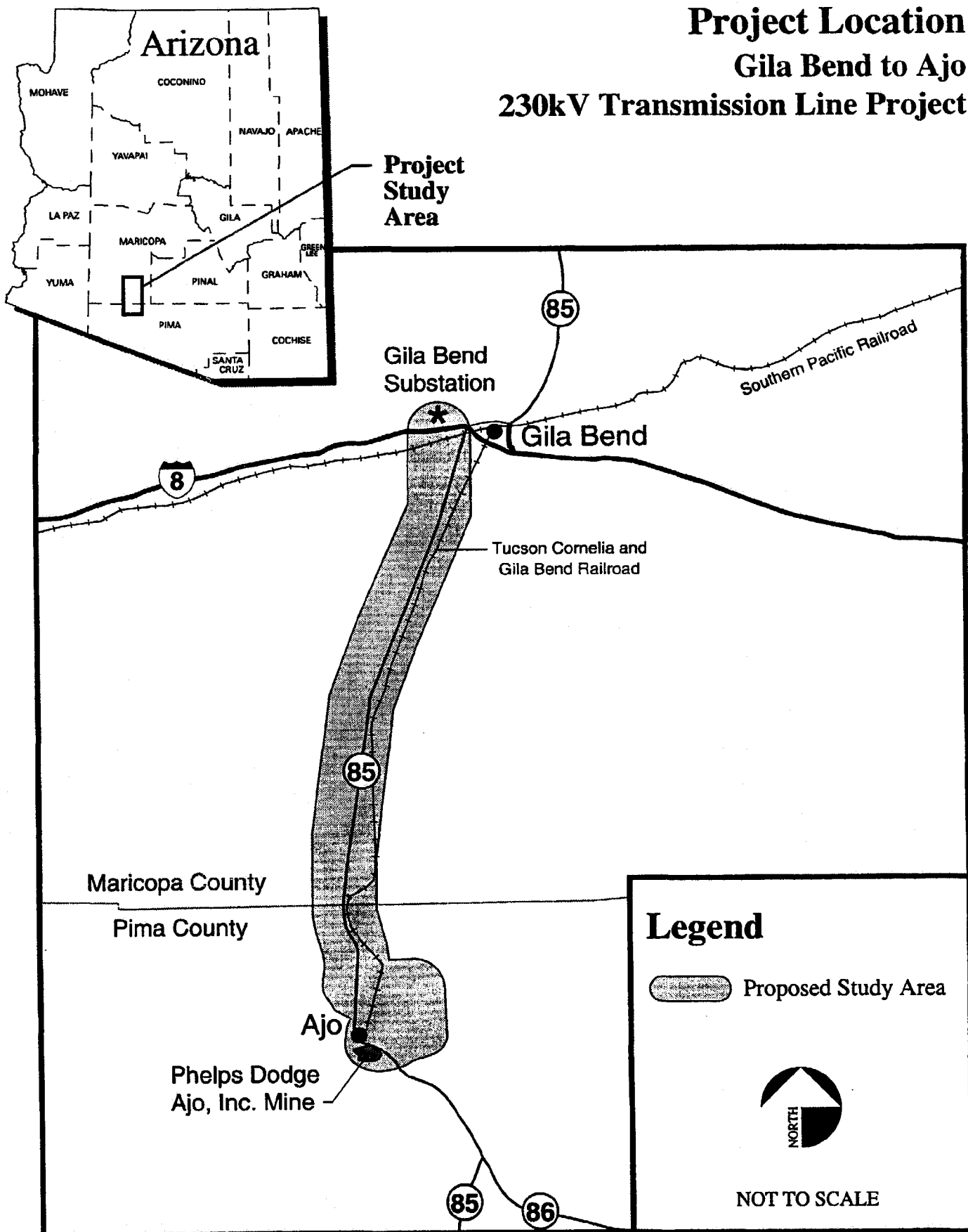
During the preconstruction phase, a specific plan of development will be prepared to include mitigation measures (Appendix D) and standard operating procedures (Appendix E). Both would be implemented throughout the life of the project in order to reduce potential adverse environmental impacts.

Construction would last 9 to 12 months and will include overland access (no blading for new access roads unless authorized by the BLM), structure site clearing, digging holes, assembling and erecting structures, wire stringing, cleanup, and site reclamation. Operation and maintenance will be conducted throughout the life of the project. Provided below is a summary description of key construction aspects.

Project Location

Gila Bend to Ajo

230kV Transmission Line Project



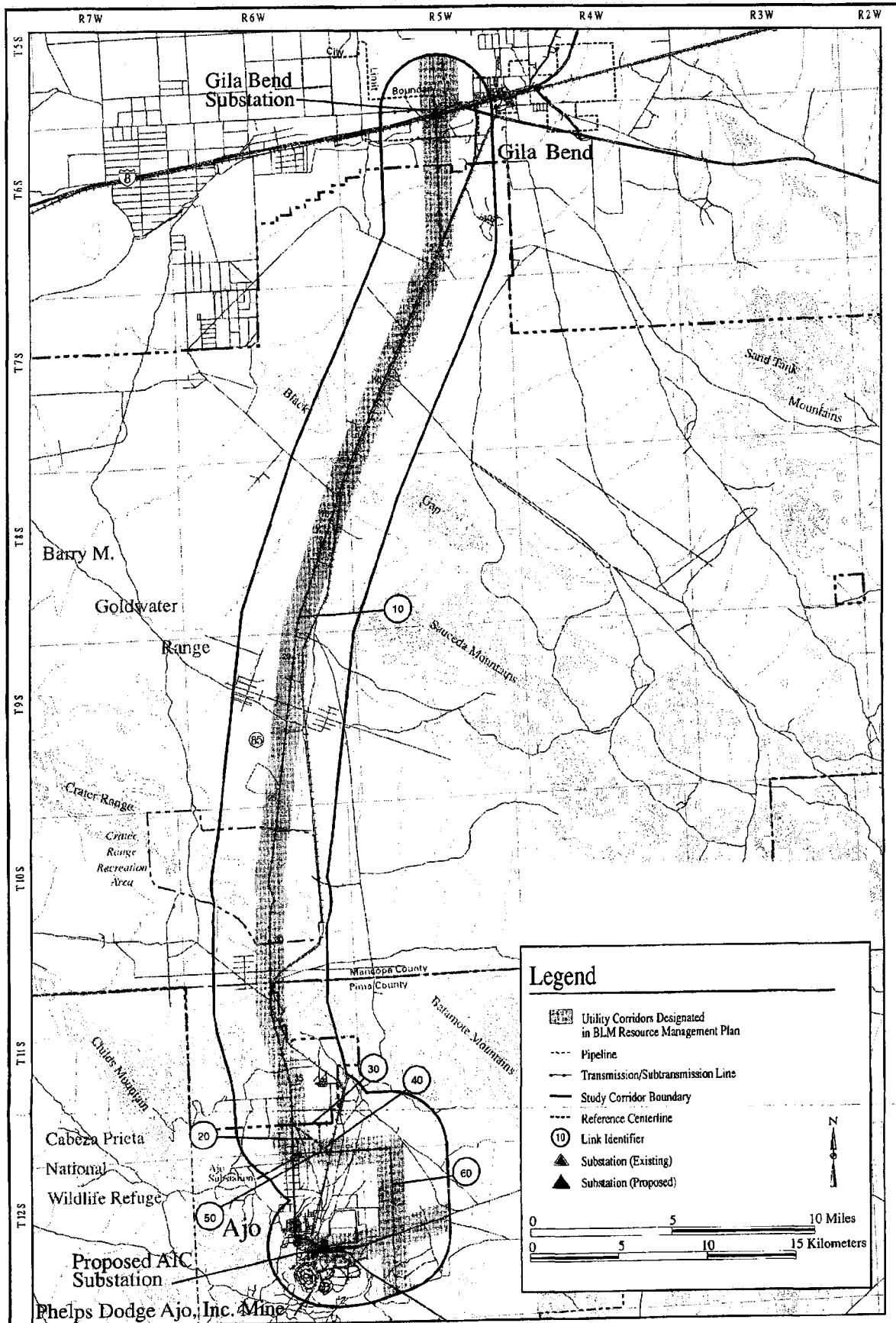
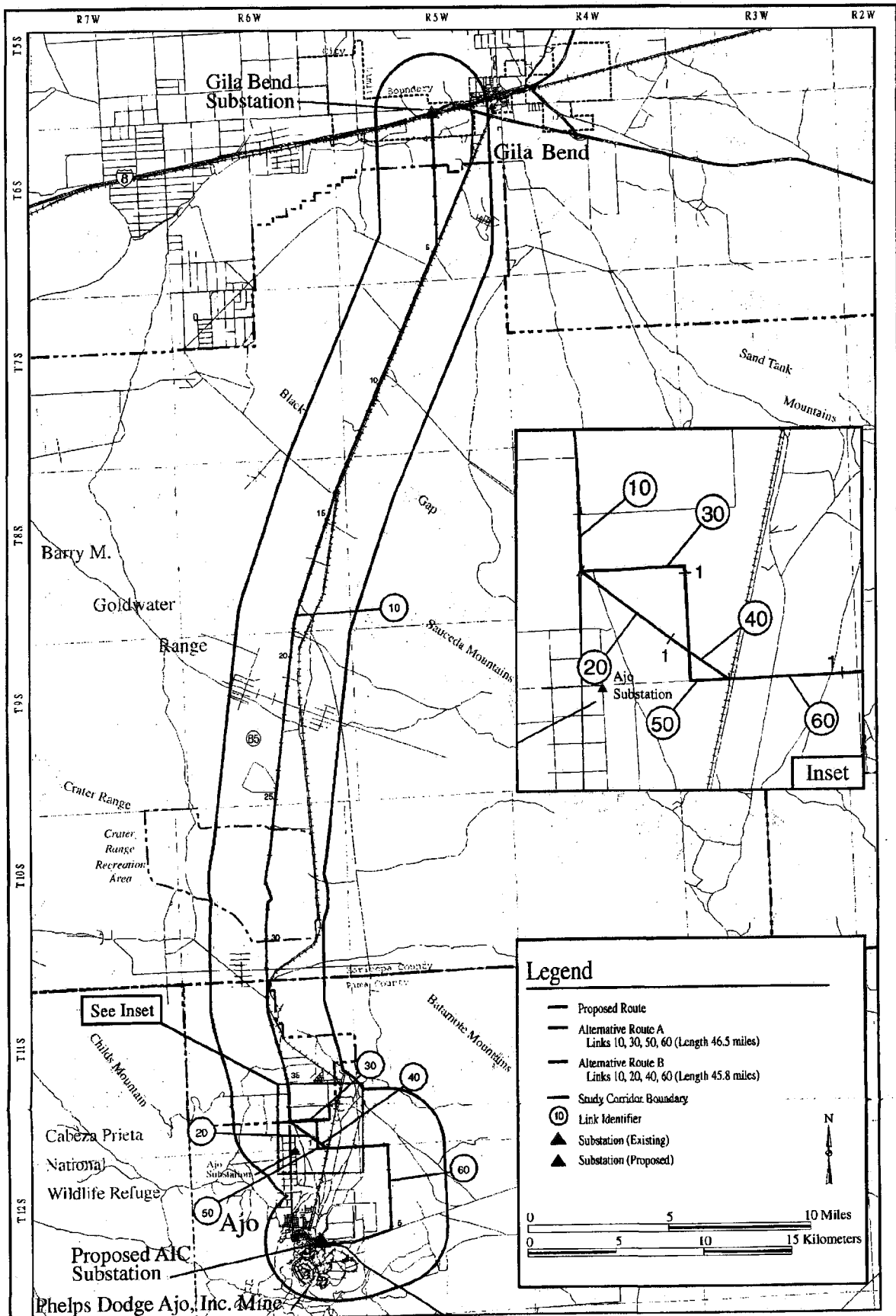


Figure 2

Utility Corridors Gila Bend to Ajo 230kV Transmission Line Project

Bureau of Land Management
Ajo Improvement Company

DAMES & MOORE
A DAVIS & MOORE GROUP COMPANY

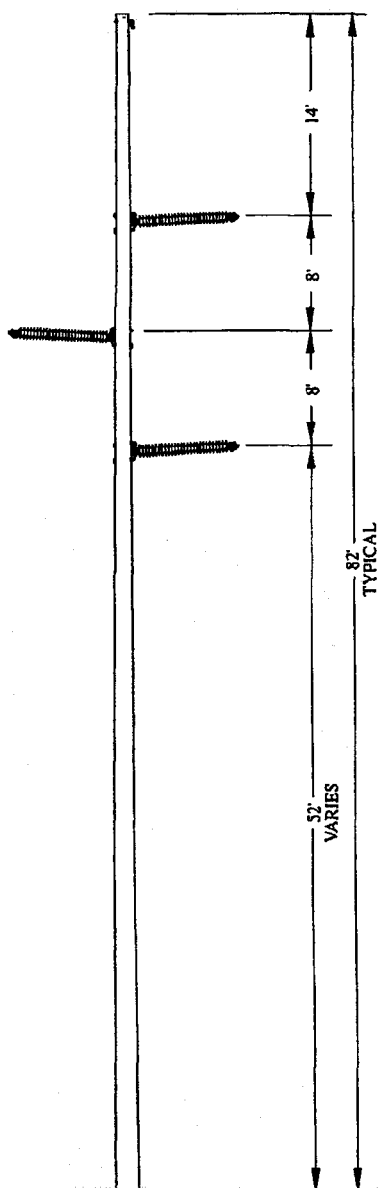


Alternative Routes

Gila Bend to Ajo
230kV Transmission Line Project

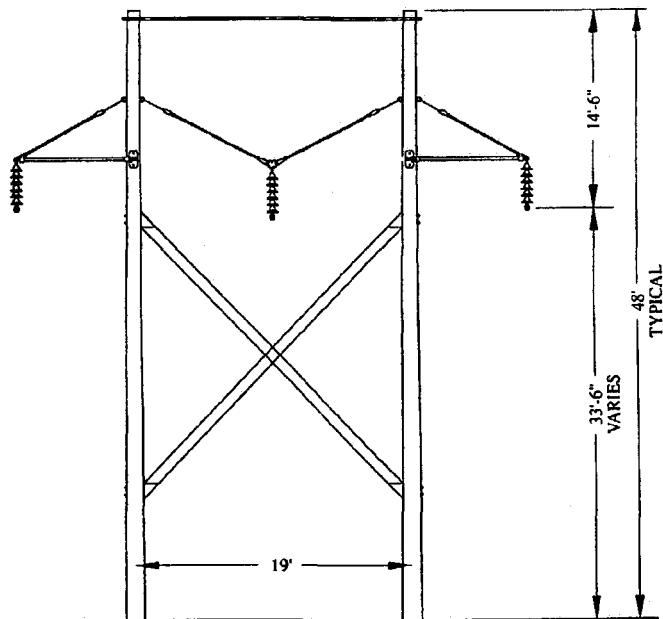
Bureau of Land Management
Ajo Improvement Company

DAMES & MOORE
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**Single Wood Pole
230kV Structure**

(Structure to be used for the majority of the route)



**Double Wood Pole
230kV Structure**

(Modified structure to be used in the vicinity of Ajo Municipal Airport)

Typical Structures **Gila Bend to Ajo** **230kV Transmission Line Project**

Overland Access—Existing roads will be used when the right-of-way closely parallels a utility corridor, or where other existing roads provide adequate access to the line. Where existing roads can be used, only overland spur roads to the structure sites will be required. No blading for new access roads would be allowed unless approved by BLM.

Structure Site Clearing—At each structure site, areas will be needed to facilitate the safe operation of equipment, such as construction cranes or line trucks. The area required for the location and safe operation of cranes and line construction equipment will be approximately 30 by 40 feet. At each site, a work area of approximately 1,500 square feet will be required for the location of structures, assembly, and the necessary maneuvers. The vegetation in the work area will be trampled, not cleared, unless approved by BLM.

Clearing Right-of-way—The clearing of some natural vegetation may be required; however, selective clearing will be performed only when necessary to provide for electrical clearance, line reliability, and construction and maintenance operations. Topping or removal of mature vegetation under or near the conductors will be done to provide adequate electrical clearance as required by National Electric Safety Code standards, if required.

Structure Installation—Excavations for poles are made with power equipment. Where the soil permits, a vehicle-mounted power auger or backhoe is used. In rocky areas, the foundation holes may be excavated by drilling, or special rock anchors may be installed. After the hole is augered, poles will be set, backfilled, and tamped using existing spoils. Remaining spoils material will be spread on the ground. The foundation excavation and installation requires access to the site by a power auger, crane, and material hauling trucks.

Structure Assembly and Erection—Poles and associated hardware are shipped to each structure site by truck. Structure assembly and mounting of associated line hardware takes place at each site. The assembled structure is then raised and placed in pre-excavated holes.

Conductor Installation—After the structures are erected, insulators, hardware, and stringing sheaves are delivered to each structure site. The structures are then rigged with insulator strings and stringing sheaves at each ground wire and conductor position.

The ground wire and conductor are strung using powered pulling equipment at one end and powered braking or tensioning equipment at the other end. Sites for tensioning equipment and pulling equipment are approximately 10,000 feet apart. The tensioning site is an area approximately 150 feet by 60 feet. Tensioners, line trucks, wire trailers, and tractors which are needed for stringing and anchoring the ground wire or conductor are located at this site. All airspace activities must be coordinated with Luke Air Force Base. The tensioner, along with the puller, maintains tension on the ground wire or conductor. Maintaining tension is required for holding ground clearance and to avoid damage to the ground wire, conductor, or any objects below them during the stringing operation.

The pulling site requires two-thirds the area of the tension site. A puller, line trucks, and tractors which are needed for pulling and temporarily anchoring the ground wire and conductor are located at this site.

Cleanup—Construction sites, material storage yards, and access roads will be kept in an orderly condition throughout the construction period. Refuse and debris, including stakes and flags, will be removed from the sites and disposed of in an approved manner. No construction equipment oil or fuel will be drained on the ground. Oils or chemicals will be hauled to an approved site for disposal. No open burning of construction debris will occur on BLM-administered lands.

Reclamation—Following construction and cleanup, reclamation will be completed. The disturbed surfaces will be restored to original contour of the land surface to the extent necessary as determined by BLM. Water diversions will be constructed along the right-of-way as needed to control surface water and soil erosion. Appropriate BLM-approved site-specific seed mixes will be used where conditions vary. Native plants salvaged from site clearing will be used for revegetation, if appropriate.

Operation—The proposed project will be operated at the Gila Bend Substation and the proposed AIC Substation. The Gila Bend Substation will be operated by APS in Phoenix, Arizona and the proposed AIC Substation will be operated by AIC at the PDAI Mine.

Maintenance—Maintenance of the proposed project would occur yearly with both helicopter and vehicle inspections. Every 10 years a detailed inspection is projected that would include climbing each structure.

NO-ACTION ALTERNATIVE

Under this alternative, the right-of-way application would not be approved and the 230kV transmission line would not be built resulting in the loss of an economical and reliable power source. AIC would pursue other transmission and generation resources to provide power for copper ore mining, milling, and concentrating operations at the PDAI Mine. The pursuit of other transmission and generation sources would result in less economical sources of power that could be subjected to federal regulations, including NEPA compliance, if required.

ALTERNATIVES CONSIDERED BUT ELIMINATED

Generation

AIC explored the use of on-site generation for proposed mining activities. This alternative would not require a BLM right-of-way application for use of public lands and, therefore, did not require further study. However, if the existing power plant at the mine was refurbished to meet the electrical needs of the proposed mining activities, there would be substantially greater cost, water requirements, and air emissions associated with this alternative compared to the proposed action.

Alternative Transmission Systems

The alternative transmission systems considered ranged from reconstructing existing transmission lines to building new transmission lines. The alternatives that were considered include using the existing 69kV

subtransmission lines, building a new 69kV subtransmission line, underbuilding the existing Gila Bend to Ajo 69kV subtransmission line on the proposed 230kV transmission line, and alternative 230kV transmission line routes.

Using the existing 69kV subtransmission line would not fulfill the electrical needs of the proposed mining activities. The electrical capacity of the existing 69kV line is 25 MW, and the mine operation will require approximately 45 MW. Under this alternative the on-site power plant would need to be refurbished as well to produce the remainder of the power needed and result in the same concerns, as stated above.

Building a new 69kV subtransmission line also was considered as an alternative. This alternative would have the same location as the proposed action, but would require substantial modifications to the existing electrical system at the mine. Further, this alternative would not provide as much electrical capacity as the proposed action. Due to the increased cost of on-site electrical system modifications, and inadequate electrical capacity, this alternative was eliminated from further study.

Underbuilding the existing Gila Bend to Ajo 69kV subtransmission line on the proposed 230kV transmission line was considered as an alternative to take advantage of the existing right-of-way. However, this alternative would require taller structures (greater than 100 feet) than the existing or proposed transmission line which could conflict with military operations on the BMGR. Currently, the military has advised AIC that structures shorter than 100 feet would not conflict with military operations on the BMGR. Further, construction and maintenance of the lines would require deenergizing both lines temporarily eliminating power to Ajo. In addition, this alternative subjects both end users of the lines, Ajo and AIC, to the same reliability risks. This alternative was eliminated from further consideration based on the reasons stated above.

In addition to the proposed action, alternative routes for the 230kV transmission line were considered and evaluated by AIC and the BLM. The first 230kV alternative considered proceeded from the proposed AIC Substation to the Sells Substation in Sells, Arizona, generally east of Ajo, continuing to the Tat Momoli Substation (on the Papago Indian Reservation occupied by the Tohono O'odham Nation southeast of Ajo). This alternative was eliminated from further consideration for the following reasons—the route is twice the length of the proposed action which would result in substantially greater costs and would pose additional potential environmental impacts. Furthermore, this route would not be primarily contained within a designated utility corridor. Based on these reasons the route was eliminated from detailed study.

Two alternative routes located in the project study area that were considered for further study and eliminated included the railroad alternative and an alternative located in north Ajo that would have terminated at the Ajo Substation (see Figure 3 inset). The railroad corridor alternative is located east of State Route 85 corridor and generally parallels the proposed alternative. This alternative was eliminated from further study for the following reasons: (1) a greater portion of the transmission line would not be in a designated utility corridor; (2) potential additional visual impacts would occur from the location of transmission lines on either side of State Route 85 rather than consolidated on one side; (3) there also would be a need for new access given the increased distance from State Route 85; and (4) further, potential impacts to land use and visual resources would occur as the railroad traverses through residential areas in Ajo.

The alternative that terminated at the Ajo Substation was evaluated as an option to the alternative routes A and B (see Figure 3). This alternative would have continued south from the northernmost junction of Alternatives A and B for approximately one mile paralleling the existing 69kV line terminating at the Ajo Substation. This alternative was eliminated from further study because it would parallel the existing 69kV line through a residential area (immediately adjacent to residences), likely resulting in potential direct impacts to residential land uses and visual resources.

Alternative Transmission Technologies

Underground construction was considered as an alternative transmission technology. Underground installations are typically preferable under certain constraining circumstances for short distances where an overhead line is not feasible (e.g., in the vicinity of airports or urban centers). They are often desirable for reducing visual impacts, but they demand extremely expensive cooling systems to dissipate the heat generated by the transmission of electricity along the lines, extensive ground disturbance, and other special design requirements. In this project area, a designated utility corridor exists which allows for the placement of an overhead line(s). Therefore, underground construction was eliminated from further consideration.

CHAPTER 3 - AFFECTED ENVIRONMENT

INTRODUCTION

The affected environment addressed for this analysis includes the natural, human, and cultural environment that would be potentially affected by the construction, operation, and maintenance of the Gila Bend to Ajo 230kV Transmission Line Project. The affected environment for the alternative routes is often referred to as the "study area." The following sections explain in detail the existing conditions found throughout the study area. Results for the affected environment section are described by issue areas or links. Links relate to numbered link segments of the alternative routes located on Figure 3. Issue areas or areas of concern are addressed in the appropriate resource sections. Data were collected and analyzed in late 1996 and early 1997 through the review of existing documentation, consultation with various individuals and agencies, and field reconnaissance. Agencies consulted are listed in Chapter 5 and references are contained in Appendix A.

GENERAL PROJECT SETTING

The study area is in southern Arizona between Gila Bend and Ajo (see Figure 1) and is focused on one primary route and two smaller alternative subroutes toward its southern end added to avoid residences located in the north area of Ajo (see Figure 3). The study area is located in the Basin and Range physiographic province, Sonoran Desert scrub section, and would traverse agricultural lands, open plains, and low mountainous terrain in Maricopa and Pima counties. Most of the proposed alternative routes (approximately 89 percent) are located within an existing BLM utility corridor and are discussed as such in each of the resource sections.

LAND USE

The land use inventory identified jurisdiction, existing and future land use, and recreation in the study area based on the review and interpretation of existing maps and documents. The land use study was conducted for a four-mile-wide study corridor (two miles on either side of the assumed centerline). In general, uses in the study area include agriculture, military operations associated with the BMGR, utility crossings, dispersed residences, transportation thoroughfares, airports, mining, and dispersed recreational opportunities.

Jurisdiction

Lands in the study area are primarily under BLM jurisdiction, but there are also areas of state (1 percent) and private (8 percent) ownership. Seventy-five percent of the route is on BLM withdrawn land within the BMGR, a military withdrawal held by Luke Air Force Base (withdrawn under the Military Lands Withdrawal Act of 1986 (Public Law 99-606)). Per the withdrawal, BLM assumes the responsibility for land and natural resource management on the BMGR. The Tactical Air Command of the U.S. Air Force

administers the BMGR through Luke Air Force Base. The remaining 16 percent of the study area is on other BLM lands. Figure 5 illustrates the land jurisdiction in the study area.

Existing and Future Land Use

Existing land uses at the northern end of the study area near Gila Bend include irrigated farm land, rural residences, and the Gila Bend Air Force Auxiliary Field. As the route extends south through the BMGR, land uses within the study corridor include air and ground military maneuvers, closed airfields, munitions storage sites, and target approach corridors. At the southern end of the study area near Ajo, land uses include residential, commercial, public/quasi-public, and industrial areas. The runway approach to the Ajo Airport is approximately 0.3 mile from the proposed centerline. PDAI owns the Ajo Mine facilities and associated tailing ponds that are at the southern end of the study area. Figure 6 depicts existing land uses. No right-of-way is anticipated to be required across any existing residential areas.

Linear features in the study area include utility corridors (i.e., transmission lines, pipelines, and water mains) and transportation corridors. Three BLM designated utility corridors with one-mile-wide widths are located in the study area. They follow the APS Gila Bend to Ajo 69kV subtransmission line, the APS Ajo to Why 69kV subtransmission line, and the El Paso Natural Gas Pipeline from Ajo to Casa Grande. Other utilities in the study area include the APS Gila Bend to Liberty 230kV transmission line, AIC Childs 44kV subtransmission line, and a 30-inch concrete water main from Ajo to Childs. Major transportation routes include I-8; State Route 85; Southern Pacific Railroad line (parallel to I-8); and North-South Tucson, Cornelia, and Gila Bend Railroad line between Ajo and Gila Bend. Utility features are illustrated on the existing land use map (see Figure 6).

Future land uses were identified by reviewing federal, state, county, and local land use plans and agency contacts. Future developments in Gila Bend are outlined in the Gila Bend Master Plan which depicts small amounts of urban expansion south of Gila Bend in the north portion of the study area. Future land uses in Ajo are guided by the Ajo Area Plan developed by the Pima County Zoning Department. Other planned land uses include a home fabricating plant south of Gila Bend along State Route 85, the re-opening of the PDAI Mine in the year 2000, the APS Santa Rosa to Gila Bend 230kV Transmission Line Project in the year 2005, and the actively pursued renewal of the BMGR withdrawal classification by Luke Air Force Base. Luke Air Force Base's current 20-year withdrawal terminates in the year 2001.

Recreation

Recreation uses located in the study corridor include BLM's Crater Range Special Recreation Management Area (SRMA), two roadside picnic/rest areas located along State Route 85 (owned by Arizona Department of Transportation [ADOT]), Ajo Country Club and golf course, Dennison Picnic Area, Ajo equestrian and rodeo grounds, and three community parks in Ajo. Due to the presence of the BMGR and the restricted access that accompanies it, very few dispersed recreation activities such as hiking, hunting, and off-road vehicle use occur within the majority of the study area unless permitted by the BMGR, although dispersed recreational vehicle use does occur at the Sikort Chuapo Wash (Dennison

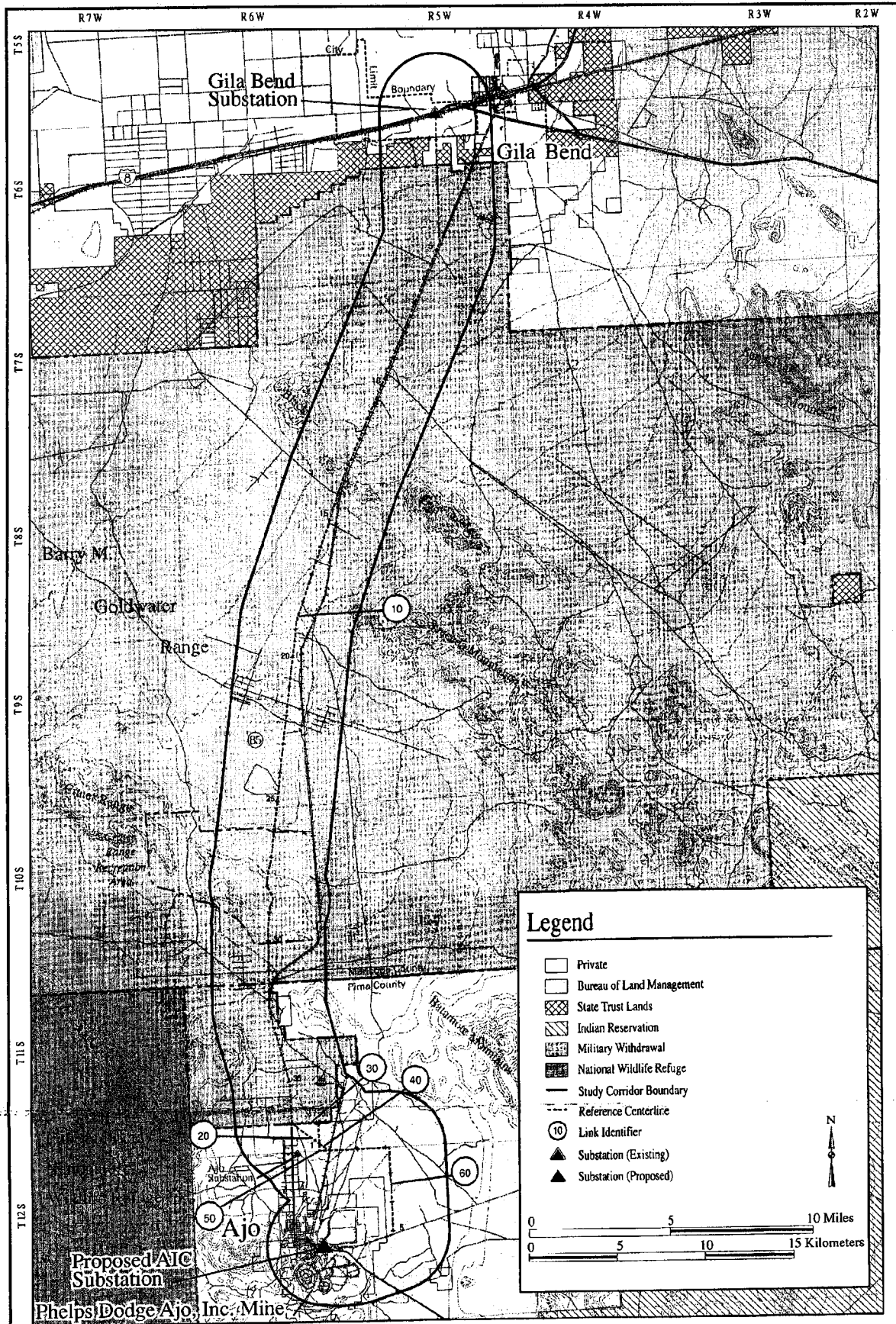


Figure 5

Jurisdiction

Gila Bend to Ajo
230kV Transmission Line Project

Bureau of Land Management
Ajo Improvement Company

DAMES & MOORE
A CH2M HILL COMPANY

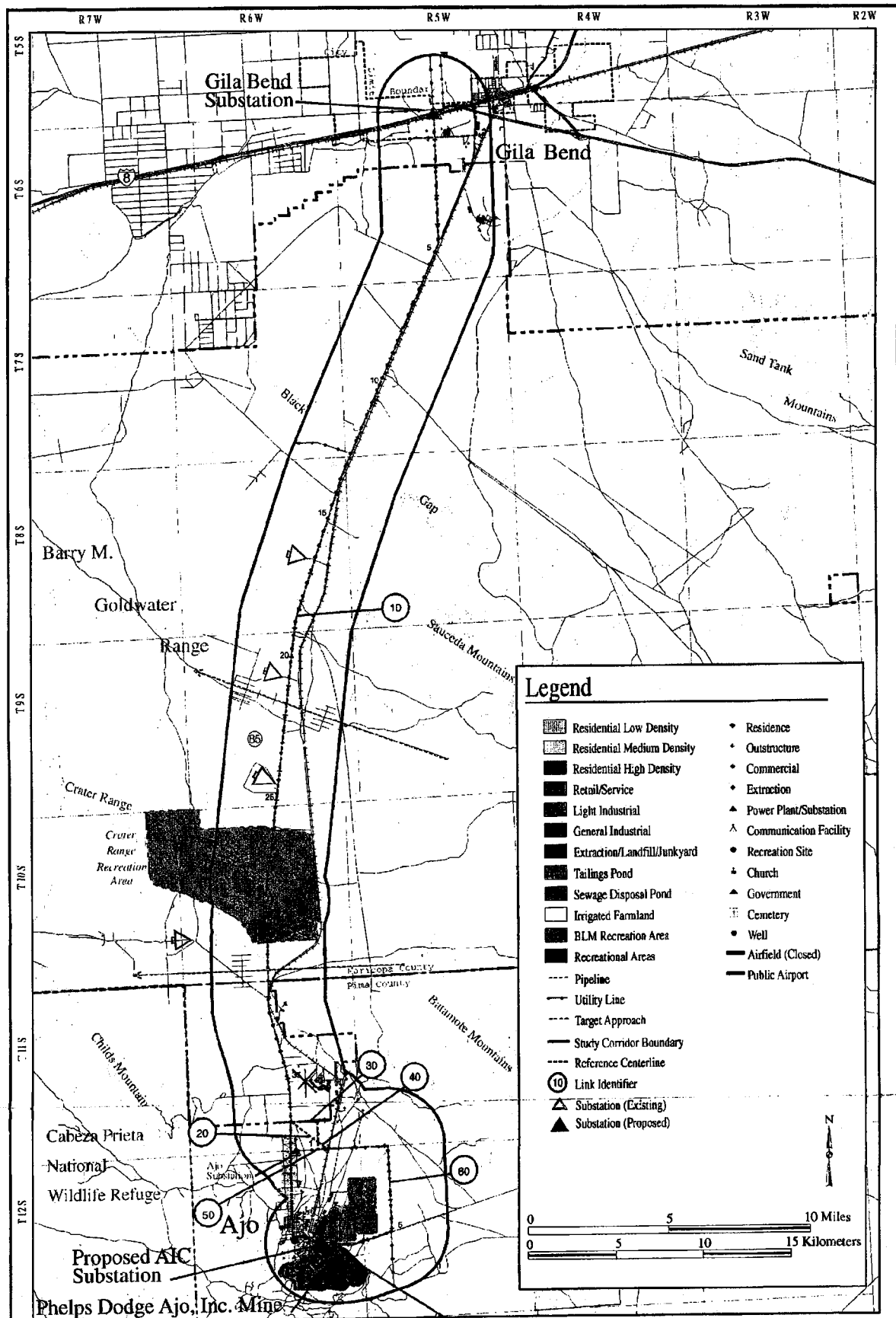


Figure 6

Land Use

Gila Bend to Ajo

230kV Transmission Line Project

Bureau of Land Management
Ajo Improvement Company

DAMES & MOORE
A DAVITA MOORE GROUP COMPANY

Picnic Area), and along the proposed scenic loop road south of the PDAI Mine. Recreation sites are illustrated on the existing land use map (see Figure 6).

VISUAL RESOURCES

The visual resource study addressed the inherent aesthetics of the landscape, public value of viewing the landscape, and sensitivity to visual effects from the proposed project. The visual inventory includes an evaluation of the existing visual conditions, visual sensitivity, and agency visual management objectives. A four-mile-wide corridor (two miles on either side of the assumed centerline) was inventoried. The analysis was conducted in compliance with the BLM Visual Resource Inventory (BLM Manual 8410-1, January 1986) (refer to Appendix H for supplemental visual resource data).

The northern terminus of the study area is the Gila Bend Substation, which is located along I-8 approximately 1.5 miles west of Gila Bend. Views from I-8 at the substation include the distant Painted Rock Mountains to the west, Gila Mountains to the north, and Maricopa and Sand Tank mountains to the east. From the substation the proposed route heads south following the existing 69kV subtransmission line across I-8, through agricultural lands on Paloma Ranch, and over the Gila Bend Canal. Fallow agricultural lands and mesquite woodlands quickly change to open rangeland with low shrubs as the proposed route crosses into the BMGR.

Continuing south towards the Black Gap Mountains, views become expansive, while ephemeral water courses, scarce vegetation, and creosote bush-bursage become more present. The proposed route soon joins with State Route 85 and parallels the highway corridor to Ajo. Along the highway, approximately two miles north of the Black Gap, the proposed route crosses over an ADOT rest/picnic area. The site consists of a large parking lot, little vegetation, a covered picnic area, and a temporary restroom. The Black Gap to the south is visually dominant at this rest area along with the existing 69kV subtransmission line and State Route 85.

Past the White Mountains to the west and through the Black Gap, another small (ADOT) rest/picnic area is encountered on the east side of the highway. Views from this rest area include the Saucedo Mountains to the east, Crater Range to the far south, and the 69kV subtransmission line and State Route 85 to the east. Tourists and locals also use this site to view practice bombing runs on the BMGR throughout the day. The Saucedo Mountains contain various relief and elevation changes up to 3,500 feet. The topography of these mountains is volcanic in nature, and includes dramatic spires, buttes, and cliffs. Dark red colored rock contributes to the landscape setting and local vegetation.

When approaching the Crater Range Recreation and Natural Area, views are dominated by steep and irregular eroded slopes of volcanic rock ridges. The Crater Range is a scenic area with unique varied vegetation and jagged rock outcrops with distinctive color patterns. Vegetation includes paloverde, saguaro, creosote bush-bursage, and various cholla. This landscape is classified as Scenic Quality A landscape by the BLM. Cultural modifications include State Route 85, the existing single-pole wood subtransmission line, and barbed wire fences outlining the ADOT right-of-way and the BMGR boundary.

Entering into the Ajo Valley, viewers are surrounded by the Batamote Mountains to the east, Pozo Redondo Mountains to the south, and Little Ajo Mountains to the west. The enclosed valley includes low rolling landforms and varied vegetation consisting of creosote bush-bursage, mesquite, saguaro, ironwood, and various cholla. Ephemeral washes and arroyos support vegetation, and mesquite and ironwood can be found along the foothills of the Batamote Mountains. Other views approaching Ajo include military practice missions and distant views of stockpiled developmental rock from the historic mining operations at the PDAI Mine.

South of the airport, before reaching rural residents north of Ajo, the route splits into two alternative routes. Alternative Route A is farthest from residences, Alternative Route B has 10 residences within a half mile. Other cultural modifications near Ajo include distribution lines, pipeline corridors, mining activities, golf course, and distant views from rural residences.

The proposed alternative continues following the existing 69kV subtransmission line corridor east, then south around the PDAI Mine tailing ponds, intersecting with the El Paso Natural Gas pipeline corridor. At this juncture the proposed alternative turns west, following the pipeline corridor to the proposed substation location on the PDAI Mine site in Ajo. Views of the proposed substation and transmission corridor would be screened from view due to vegetation and fencing. Dominant features in the Ajo landscape include the PDAI Mine with developmental rock piles, tailing ponds, and other ancillary mine facilities. Vegetation in this narrow rolling valley includes creosote bush, desert scrub, and an occasional saguaro cactus.

Visual Sensitivity

Key observation points include major travel routes, recreation areas, hiking trails, rural communities, and dispersed residences. Key observation points and associated visual sensitivity levels in the study area were reviewed by the BLM Phoenix Field Office. These points included I-8; State Route 85; Crater Range SRMA; the proposed scenic loop road (south of PDAI Mine); Dennison Recreation Site; ADOT rest areas; Ajo Golf Course; the Ajo Equestrian and Rodeo Ground; and rural communities, residences, and dispersed residences near Gila Bend and Ajo. All travel routes and recreation areas were identified as moderate sensitivity, and residences were identified as high sensitivity. The visual sensitivity reflects the degree of public concern for change in the landform, vegetation, water, color, and cultural or man-made features in the surrounding landscape or key viewing areas. Visual sensitivity levels (high or moderate) reflect the sensitivity of the viewpoint and viewer concern for change, volume of use, public and agency concerns, influence of adjacent land uses, and viewing duration.

Agency Management Objectives

Mapping and descriptions of Visual Resource Management (VRM) classes and special management areas were obtained from Lower Gila South RMP and the Lower Gila South RMP (Goldwater Amendment). The project area is predominantly VRM Class IV, with one small area of VRM Class II (in the Crater Range SRMA), and two areas of Class III (in the Black Gap and agricultural lands southwest of Gila Bend) (refer to Appendix H for BLM VRM Classifications).

CULTURAL RESOURCES AND NATIVE AMERICAN CONCERNS

Cultural resources include prehistoric resources, ethnohistoric resources or traditional cultural properties, and historic era resources. The Council on Environmental Quality regulations (§1502.25) encourage agencies to coordinate compliance with NEPA with other environmental review and consultation requirements, including those of the National Historic Preservation Act (NHPA). Compliance with Section 106 of the NHPA generally is accepted as demonstration of the consideration of cultural resources mandated by NEPA. Compliance with Section 106 requires identification of potential impacts upon cultural resources that are determined eligible for listing on the National Register of Historic Places. Cultural resources that are determined eligible for listing are labeled "historic properties," and can include prehistoric and historic era archaeological sites, buildings, structures, districts, and objects.

The cultural resources inventory was accomplished through (1) examination of existing records, (2) intensive pedestrian inventory of areas not previously inventoried, and (3) consultation with Native American groups with potential concerns about the project area. The Native American consultation was conducted by the BLM, and was initiated with letters followed by telephone contacts by BLM Phoenix Field Office representatives (consultation continues). Contacted groups include the Tohono O'odham Nation, Hia Ced O'odham Alliance, Ak-Chin Indian Community, Gila River Indian Community, Salt River Pima-Maricopa Indian Community, and Hopi Tribe. In addition to Tribal leaders, cultural preservation specialists were contacted where they have been officially designated along with tribal leaders.

An examination of records at the Arizona State Museum, Arizona State University Department of Anthropology, BLM Phoenix Field Office, and Arizona State Historic Preservation Office (SHPO) demonstrated that the entire ADOT right-of-way proposed for installation of the 230kV transmission line as well as one immediately adjacent to the study area have been intensively inventoried recently. Twelve archaeological sites, one property containing aspects of both a site and a structure, and three historic age structures had been recorded as reported by Hathaway (1995) and Rogge and others (1995). Following the records search, an intensive pedestrian inventory was conducted throughout those portions of the alternative corridors beyond the ADOT right-of-way. Three additional archaeological sites were recorded during that survey. The results of the most recent inventory are documented by Bruder and others (1997), along with a reevaluation of the National Register eligibility of the previously recorded properties and an assessment of the probable effect of the proposed transmission line on those resources. No traditional cultural properties were identified, nor were any concerns about cultural resources expressed to the BLM by representatives of the six Native American groups contacted. The cultural resources inventory is summarized in Table B-1, Appendix B. The BLM will consult with the Arizona SHPO prior to issuance of a decision record under NEPA to request concurrence with their determinations of eligibility and project effect.

BIOLOGICAL RESOURCES

Vegetation

The two subdivisions of Sonoran desertscrub within the study area include the Lower Colorado River Valley Subdivision and the Arizona Upland Subdivision. The Lower Colorado River Valley Subdivision, the most prevalent vegetation type in the proposed study area, is characteristic of the broad, flat alluvial valleys and plains that separate northwest-southeast trending mountain ranges throughout western and south-central Arizona (Turner and Brown 1994). Creosote bush is the most common species in the area along with burro bush or triangle-leaf bursage. Microphyll woodlands are associated with drainageways within Sonoran desertscrub and are often present in low-lying areas around developed facilities such as highways and railroads. These woodlands are characterized by the dominance of large shrubs and small tree species of mesquite, blue paloverde, ironwood, smoketree, and desert broom. Washes in the area which support microphyll woodlands include Quilotosa Wash south of Gila Bend and Tenmile Wash north of Ajo. Other common associates are white ratany, big galleta, and white bursage. Winter and spring annual species include fiddleneck, cryptantha, spiny herbs, mustards, comb bur, filaree, wooly plantain, arabian grass, and six-weeks fescue are present during wetter years.

The Arizona Upland Subdivision is limited to rocky slopes of the Crater and Saucedo mountains. It generally appears as woodlands characterized by mesquite, paloverde, and ironwood trees. Intervening spaces occupied by a large variety of shrubs and cacti can be found on slopes, broken ground, and multi-dissected sloping plains (Turner and Brown 1994). This subdivision is not well represented within the study area though rabbitbrush and paloverde are present.

Wildlife

Wildlife species that occur in the study area are characteristic of those within the Lower Colorado River Valley Subdivision of the Sonoran Desert, primarily creosote bush-bursage associations (Turner and Brown 1994). Species observed in the study area include kangaroo rats, pocket mice, white-throated wood rats, gray fox, kit fox, javelina, coyote, mule deer, and Sonoran pronghorn.

Bird species breeding in the vicinity and associated with the microphyll woodlands include roadrunner, Gambel's quail, loggerhead shrike, great-horned owl, and lesser nighthawk. Birds which breed in the vicinity but not within the study area consist primarily of neotropical migrants such as white-winged dove, ash-throated flycatcher, brown-crested flycatcher, Scott's oriole, and Lucy's warbler. Raptors likely to forage or perch on utility poles in the area include the turkey vulture, prairie falcon, and red-tailed hawk.

Reptiles are relatively rare in the study area due to the relative lack of habitat diversity. Reptiles found throughout the area include the side-blotched lizard and western whiptail. Tree lizards and desert spiny lizards are found in wash habitats. Snakes likely to occur in the area include gopher snake, night snake, long-nosed snake, and common kingsnake.

Special Status Species

Special status species potentially occurring within the area were identified by the U.S. Fish and Wildlife Service (USFWS), in accordance with the Endangered Species Act; the Arizona Game & Fish Department (AGFD), which maintains the Natural Heritage database and the list of Wildlife Species of Concern in Arizona; and the State Department of Agriculture to obtain protected plants and policies established in the Arizona Native Plant Law (ANPL). Special status species that may occur in the study area and their categorical ratings are described below and listed in Table C-1, Appendix C.

Special Status Wildlife Species

Nine special status wildlife species may be present in the study area (AGFD 1996; BLM 1996a; USFWS 1996). These species are described below.

The lesser long-nosed bat and Sonoran pronghorn are federally listed as endangered and are wildlife species of concern in Arizona. Although the lesser long-nosed bats may occur in the vicinity of the project, no roost sites are present and food sources (e.g., agaves and large cactus) are scarce. Habitat for the Sonoran pronghorn is bounded to the north by I-8 and to the east by State Route 85. Habitat consists of broad alluvial valleys separated by block-faulted mountain ranges. Sonoran pronghorn inhabit these valleys which are generally dominated by creosote bush-bursage and often migrate to paloverde-mixed cacti habitats from late winter to early fall (Thompson-Olais 1994). Sonoran pronghorn feed primarily on forbs and shrubs, and cacti and grasses are a smaller component of their diet. The need for open water sources has not been fully documented, although there is no evidence that they travel long distances to obtain water (Thompson-Olais 1994). Although the range of the pronghorn has not been extended east of State Route 85, there have been unconfirmed sightings of pronghorn crossing State Route 85 (BLM 1996a).

Three special status bird species may be present in the study area. There is low potential for peregrine falcon (listed as endangered) to occur as a migrant in the area. Cactus ferruginous pygmy-owl, listed as endangered with critical habitat, is unlikely to be present due to the lack of suitable habitat, and Harris hawks are likely to be present, although potential nest sites are limited.

One reptile and one amphibian special status species are known to inhabit the study area. The Sonoran desert tortoises hibernate during the winter months, emerging from their burrows in the spring to feed and mate. BLM designates management areas for the desert tortoise based on several factors regarding the condition and size of the habitat, as well as manageability of the area (Table C-2, Appendix C). Within the study area, there is Category I habitat where State Route 85 crosses between the Saucedo Mountains and the White Hills, although habitat adjacent to the highway is not considered high value (BLM 1996a). The Crater Range, also traversed by the proposed route, is designated as Category II habitat. The Sonoran green toad inhabits creosote bush throughout the study area.

Special Status Plant Species

Four special status plant species have the potential to occur within the study area, although none of these are federally listed as threatened or endangered. The acuna cactus is a federal candidate species and is categorized as highly safeguarded under ANPL. It grows on open, rocky slopes in creosote bush scrub associations. Habitat ranges from the Crater Range and to the Ajo Mine pit (Benson 1982). Smoketree, categorized as salvage assessed by the ANPL, occurs along larger drainages in the vicinity of Gila Bend and may be present along the Quilatos Wash (Turner et al. 1995). Salvage assessed native plants include those plants which are not included in either the highly safeguarded or salvage restricted categories but which have sufficient value if salvaged to support the cost of salvage tags and seals (from the Department of Agriculture). Sandpaper bush and copperleaf have low potential for occurrence in the Crater Range (BLM 1996b). Organ pipe cactus has been inventoried south of Ajo and is unlikely to be present within the study area. Additional plant species in the area are under the protection of the ANPL, including mesquite, ironwood, paloverde, and all species of cacti.

SOCIOECONOMICS

Unless otherwise cited, information in this section was obtained from the Arizona Department of Economic Security and U.S. Census Bureau, 1990. The demographic, economic, and fiscal attributes of the area were inventoried to characterize and evaluate potential socioeconomic effects of the proposed study area. Areas of socioeconomic concern for a transmission line project include effects on nearby communities, economic activities, adjacent land uses, and impacts to minority and low income individuals.

Demographics

The study area consists of approximately 194 square miles. Maricopa County has populated areas concentrated around the city of Gila Bend, Gila Bend Air Force Auxiliary Field, and scattered rural residences along State Route 85. Residential areas located in Pima County are concentrated around dispersed rural residences and commercial businesses on the north side of Ajo.

Population data from the U.S. Census Bureau between 1980 and 1990 show an increase in Gila Bend by 10.2 percent (1,585 to 1,747 residents) and a decrease in Ajo by 43.8 percent (5,189 to 2,916 residents). The significant change in the Ajo population was due to the closing of the PDAI Mine during the 1980s. This change and slowing population growth rate have left a large housing vacancy rate in Ajo (31.8 percent) and Gila Bend (21.3 percent). Houses in Gila Bend and Ajo were primarily built between 1950 and 1970. Primary residents include Phelps Dodge employees, military individuals, and retirees.

Principal Economic Activities

The principal economic activities in Gila Bend are agriculture (e.g., cotton), military activities, and tourism. Ajo is heavily dependent on mining, traveling tourists, and retail services (e.g., food, eating and

drinking establishments, and service stations). Both cities provide public schools, medical facilities, recreation, and air facilities. Primary attractions to the region include the Organ Pipe Cactus National Monument, Cabeza Prieta National Wildlife Refuge, Tohono O'odham Indian Reservation, and travelers to and from Mexico.

Employment and Income

During 1996, the civilian labor force for Gila Bend was 901 persons with an unemployment rate of 6.2 percent. In Ajo, the labor force was 878 persons and an unemployment rate of 5.1 percent. Overall, the unemployment rates went down in both Ajo and Gila Bend from 1995 figures. Average per capita income in Gila Bend from the 1990 census was \$8,565 and \$8,742 in Ajo. For a family of three this income would be below the poverty level. The principal employers in the study area include Gila Bend Auxiliary Field, BMGR, Phelps Dodge, and educational facilities in Gila Bend and Ajo.

Minority and Low Income Communities

The population and distribution of ethnic people in the Gila Bend and Ajo areas are diverse. According to the 1990 Census Bureau, the ethnic diversity in Gila Bend was 47.4 percent White, 42.5 percent Hispanic origin, 6.4 percent American Indian, 2.3 percent Black, 1.3 percent Asian/Pacific Islander, and 0.1 percent other. In Ajo, the ethnic diversity is 48.1 percent White, 43.0 percent Hispanic origin, 8.2 percent American Indian, 0.6 percent Asian/Pacific Islander, and 0.1 percent Black. The primary language in the area is English; however, a large percentage of the local population speaks Spanish. During the 1989 census, 31 percent of the population in Gila Bend was below the poverty rate. In Ajo, 23 percent of the population was below the poverty rate.

EARTH AND WATER RESOURCES

The project area is located in a portion of the desert section of the Basin and Range physiographic province. The Basin and Range generally consists of steep, discontinuous, subparallel mountain ranges separated by broad, alluvial-filled basins or valleys. The thickness of alluvium is often several thousands of feet in the central portion of these basins. The alluvium consists of unconsolidated to moderately consolidated silts, sands, clays, gravels, and cobbles. Many of the mountains in the project vicinity are formed of Tertiary volcanic rocks. There are also some Precambrian granitic, Cretaceous volcanic, and Tertiary sedimentary rocks (Arizona Geological Survey 1988).

Soils

The soils in the project area are quite variable, primarily as a result of the soil-forming factors of parent material, relief, time, and climate. The soils range from sandy to gravelly in major drainages; to sands, silty sands, and loamy soils on the valley floors; to the fine-to-coarse gravels and rock outcrop in the mountains and mountain slopes. Some of these soils have developed a desert pavement at the surface.

Wind erosion is a potential hazard for many of the soils in the area. Water erosion may occur along the normally dry washes when there is flowing water during or following a rainstorm. Since total annual rainfall is less than eight inches, water erosion hazards are fairly minimal. Vegetation cover protects the soil from wind and water erosion.

The soils have been mapped along portions of the study area by the Natural Resources Conservation Service (1997). Most of the soils have slight wind and water erosion hazards. Areas with moderate wind and/or water erosion hazards occur at many of the larger washes. Broad areas with moderate erosion hazards occur along Link 10 (Mileposts 0.0 to 3.0 and 29.0 to 36.0) and Link 60 (Milepost 2.2 to 2.9).

The soils along Link 10 (Milepost 0.8 to 1.0 and 1.2 to 2.8) are delineated as suitable for prime farmland. Prime farmland is land that has the best combination of physical and chemical characteristics for producing sustained high yields of crops with standard farming methods. A dependable water supply, such as irrigation, is also required.

Water

Surface water drainage in the area is northward by numerous washes to the Gila River, which in turn flows southwestward to the Colorado River. These washes are typically dry and flow in response to the brief but intense summer rainstorms or the longer duration winter rains.

Areas that may be subject to notable flood hazards are delineated by the 100-year floodplain. The Federal Emergency Management Agency (1989, 1993) has mapped the 100-year flood hazard boundaries for the project area. Areas subject to the 100-year floodplain included Link 10 (Milepost 0.6 to 0.7) and Link 60 (Milepost 0.01 to 0.39 and 2.05 to 2.3).

Other areas may be subject to minor flooding from overland or sheet flow as well as along the numerous smaller washes. Most of the major washes are prone to at least minor flooding in response to rainfall. There are no perennial streams or springs along the project links.

AIR QUALITY AND NOISE

The existing air quality along the alternative routes is characteristic of rural and remote areas. Air quality is generally very good and any pollution is primarily from long range transport of pollutants from distant areas (i.e., Phoenix). Pima County has specific air quality standards for the Ajo area under Code 17.08.130. These standards were based on the previous smelter operation at the mine, which was closed in 1985 and dismantled in 1995. The standards which encompass the Ajo area include a nonattainment area for sulfur dioxide (SO₂); an area unclassifiable for SO₂ in the Childs Mountains west of Ajo; a nonattainment area for total suspended particulate directly over the Ajo mine; and a Class II classification for carbon monoxide, nitrogen oxide, and tri-oxide. No other air quality standards or large pollutant sources are located in the area. Also, much of the study area is arid with sandy or silty soils and low vegetative cover, windblown dust from natural sources and local farms contributes to local and regional suspended particulate concentrations.

Ambient noise along the alternative corridors is minimal, with intermittent noises from passing vehicles on I-8 and State Route 85. Loud noises from military aircraft practicing on the BMGR and trains using the Southern Pacific Railroad and Tucson, Cornelia, and Gila Bend Railroad are other primary ambient noises present in the study area.

CHAPTER 4 -ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

The purpose of this section is to describe potential effects to the environment that could result from constructing, operating, and maintaining the proposed 230kV transmission line. Impacts that would result from the project were determined by comparing the alternative routes to the existing environment (Chapter 3). The impacts are described as either direct, indirect, or cumulative. The direct and indirect impacts are discussed in the individual resource sections, and the cumulative impacts are discussed at the end of the chapter. The impact analysis is based on the inventory results and standard practices combined with professional judgment of the principal investigator for each particular environmental component. Anticipated environmental consequences are described for the proposed route including Subalternatives A and B. Link segments described for Alternatives A and B are shown in Figure 3. Links refer to the individually numbered segments of the alternatives. Common impacts for the majority of the proposed route are described in Alternative A. Any differences in impacts relative to Alternative B are described under Alternative B.

The following resources are considered critical elements of the human environment, but are not present or would not be affected by the proposed action—wilderness areas, wild and scenic rivers, areas of critical environmental concern, wetlands or riparian zones, ground or surface water quality, floodplains, electrical magnetic fields, and hazardous or solid waste.

Mitigation measures to reduce potential impacts were applied to the project as a whole or on a site specific basis according to the location(s) of the predicted impact. Mitigation measures are briefly discussed within each resource section (if applicable) and can be reviewed in Appendix D.

LAND USE

Land use impacts typically relate to physical restrictions and operational effects of the proposed project to existing and planned land uses. Impacts were identified along the alternative corridors and described by issue area and link (see Figure 6 for inventoried land use data). All alternatives avoid significant direct physical conflicts with residences, town sites, commercial/industrial facilities, mining, and grazing.

Right-of-way permits that would be required include a right-of-way permit application for the BLM, a right-of-way easement for Arizona State lands, and landowner negotiations for private property. Private landowner negotiations are a matter of technical coordination and a realty agreement between the concerned parties, so they are not addressed in the study.

Proposed Action

Alternative A

Existing and Future Land Use—No moderate or high impacts to land uses resulted from physically displacing, altering, or affecting any established site by the proposed transmission line. Impacts that were identified for Alternative A are discussed below.

Approximately 0.6 mile of irrigated farmland near Gila Bend (Link 10) would be crossed by this route. Specific structure placement, as well as matching existing spans and structure locations, would reduce the potential impact on farm operations to low. The presence of an additional line and taller structures could be more hazardous to aerial crop spraying operations.

Impacts to the Ajo Municipal Airport (Link 10) are anticipated to be minimal provided all standards applicable to the Federal Aviation Administration (FAA) and filing of FAA Form 7460-1 are followed. All requests (e.g., shortening structures or special structure placement) would be adhered to in the final design and construction.

No impacts are anticipated for military operations (Link 10) on the BMGR, according to conversations with the U.S. Air Force (AIC 1997), provided the transmission poles remain under 100 feet, which is lower than the threshold of the military operation maneuvers.

There is potential for impacts to future land use (Link 10) at the northern portion of the route, where lands are designated as parks/open space (0.1 mile) and residential low density (0.1 mile). Impacts would be mitigated by paralleling an existing 69kV line and locating within an existing utility right-of-way. The southern part of this alternative (Link 30) avoids dividing up large tracts of land, which could potentially be sold or exchanged by the BLM.

Recreation—There would be minimal impacts to recreation on an ADOT roadside rest area (Link 10) and the crossing of the Crater Range SRMA (Link 10). Impacts to the ADOT roadside rest area would be mitigated through special pole placement and spanning. Impacts to the Crater Range SRMA would be mitigated by using the existing utility right-of-way as specified within the Lower Gila South RMP (Goldwater Amendment). This plan specifically states that new overhead lines when needed may be placed through this corridor. Short-term indirect impacts to BLM lands within and adjacent to the study area may occur from increased dispersed recreational use due to the influx of construction workers for the proposed project.

Alternative B

Existing land use and recreation impacts to common Links 10 and 60 would be the same as Alternative A. No future land use plans would be affected by Alternative B. The Ajo Area Plan, conceptual in nature, does include (Link 20) residential low and high density designations less than 1/8 mile from Alternative B on Link 20. However, this future land use plan would only be realized if lands became

available for development under the jurisdiction of the BLM. Direct and indirect impacts to recreation for Link 20 would be dispersed and minimal.

No Action

No impacts will occur if the no-action alternative is selected. Existing and planned land uses will continue unaffected.

VISUAL RESOURCES

A description of the visual resources impact assessment methods, types, and levels are presented in Appendix H.

Proposed Action

Alternative A

Potential impacts identified to visual resources were based on the following considerations: (1) the proposed transmission line would parallel existing 69kV subtransmission lines (Link 10 and 60); (2) existing access would be used for construction, (3) similar structure types (wooden single pole) would be used, and (4) nonspecular conductors would be used. These considerations would minimize short- and long-term visual impacts where the proposed route parallels the existing 69kV subtransmission lines.

Visual Sensitivity—Several sensitive viewpoints occur throughout the study area. Potential impacts to views from residences, recreation sites, and highways and travel routes could occur.

Moderate impacts to views from residences could result from the combination of high sensitivity viewers and moderate to strong visual contrast levels in the moderate visibility threshold (0.5 -1.0 mile). Residential views with moderate impacts are found west of State Route 85 (Link 10), near Gila Bend and north of Ajo. With the use of nonspecular conductors it is anticipated that initial moderate impacts would be reduced to low. All remaining residences are expected to have low impacts due to limited visibility as well as vegetation and landform screening.

Moderate impacts to views from recreation sites and areas would result from moderate viewer sensitivity, moderate to strong visual contrast levels in a high visibility threshold (0 to 0.5 mile). Moderate impacts would occur to foreground views from the ADOT rest areas and through the Crater Range SMRA. Impacts would be reduced with the use of nonspecular conductors and structure placement. Low impacts to views from dispersed camping/recreational vehicle sites along Sikort Chuapo Wash (Dennison Picnic Area), Ajo Golf Course, and Ajo Equestrian and Rodeo Ground are anticipated due to the location of the proposed project (one mile away). Low impacts also would occur from the Scenic Loop Road south of the PDAI Mine, because the proposed project would not be visible from the road due to topography.

Moderate impacts to viewers along moderate sensitive travel routes and highways could result from the combination of moderate visual contrast levels within high visibility thresholds (0 to 0.5 mile). These areas would include the crossing of I-8 (Link 10, Milepost 0.1), most of State Route 85 (Link 10, Milepost 4.5 to 36.5), and the El Paso Natural Gas pipeline road (Link 60). Moderate impacts on travel route and highway viewers would be reduced through the use of nonspecular conductors and structure spacing and placement (when possible).

Scenic Quality—Moderate impacts to Scenic Quality Class A landscapes occur within the Crater Range SRMA along Link 10 (Milepost 26.1 to 30.1). These impacts are a result of moderate to strong visual contrast between the existing landscape and the proposed project. The Crater Range SRMA, however, does have a designated utility corridor through it which allows for additional above ground utility lines to be placed in the corridor in the future. In addition, nonspecular conductors and pole placement would minimize impacts.

Agency Management Objectives—The proposed project will comply with the VRM classifications within the study area. The proposed project is located primarily in designated utility corridors on BLM lands.

Alternative B

Visual Sensitivity—Moderate impacts to views from residences north of Ajo (Link 20) result from the combination of high viewer sensitivity, as well as moderate to strong visual contrast levels (e.g., no overhead facilities) in the high visibility threshold (0 to 0.5 mile). Nonspecular conductors would reduce visual impacts.

Impacts to viewers from travel routes/highways would be the same as Alternative A.

Scenic Quality—Impacts are the same as Alternative A, with common Links 10 and 60.

Agency Management Objectives—Compliance with VRM classifications are the same as Alternative A.

No Action

No impacts to visual resources would occur if the no-action alternative is selected.

CULTURAL RESOURCES AND NATIVE AMERICAN CONCERNS

Proposed Action

Alternative A

The area of potential effect has been inventoried and is known to contain 11 properties recommended as eligible or potentially eligible for National Register listing (see Table B-1, Appendix B). Because none of these properties are located along alternative corridors, there are no anticipated distinctions among action alternatives from a cultural resources perspective.

In considering the potential for the proposed transmission line to effect historic properties, possible physical disturbance as well as visual, auditory, and atmospheric intrusions were considered. Just two determined or potentially eligible properties (the Tucson, Cornelia & Gila Bend Railroad and the remains of the historic Clarkston/ Rowood townsite) are valued for characteristics that might be subject to visual, auditory, or atmospheric intrusions. In neither case, however, is the installation of a transmission line regarded as having a significant impact on those attributes.

Surface disturbance from heavy equipment and minor subsurface disturbance from pole installation could occur within site boundaries in cases where sites are too large to be spanned. As shown on Table B-1, Appendix B, it appears that 5 of the 11 eligible properties can be avoided entirely. Avoidance will be ensured by marking site locations in the field and on construction documents. These properties will be spanned and thus will be avoided during construction except for pedestrian traffic. The construction contractor will be instructed to prevent employees from collecting surface artifacts or otherwise disturbing the properties.

There are five cases where it appears that eligible sites are too large to be spanned. All of these sites contain relatively discrete concentrations of surface artifacts or features separated by large areas that lack surface archaeological traces. While not impossible, the likelihood that buried deposits could be encountered in these "blank" areas is low. Therefore, rather than conducting highly disturbing archaeological data recovery excavations at these sites prior to construction, the BLM would prefer that potential limited impacts be mitigated through the following steps: (1) at sites that cannot be completely spanned, poles will be located in "blank" areas within them; (2) construction will be strictly monitored to ensure avoidance of site areas that exhibit surface artifacts and features, as well as to observe any buried materials that may be encountered during pole construction; and (3) should buried materials be found, construction in those areas will be halted temporarily to permit professional recovery of the finds.

In the event of an archaeological discovery situation, the contractor would be required to cease work in the immediate vicinity of the find and take measures to protect the archaeological remains from further intentional or inadvertent disturbance. These measures might include barricading and partial backfilling. The BLM would be notified within 24 hours of a discovery having been made. The BLM archaeologist would then notify the SHPO and Native American groups known to claim affiliation with former inhabitants of aboriginal archaeological sites in the project area. If the discovery pertained strictly to Euroamerican archaeological remains, just the SHPO would be notified. The BLM would consult with the SHPO and tribal representatives regarding appropriate treatment to mitigate the effects of disturbance, with a field visit arranged if necessary.

Thereafter, the agreed upon treatment would be undertaken by a professional archaeologist before construction would be allowed to proceed.

In consideration of the proponent's commitment to fund monitoring (and data recovery in the event of a subsurface discovery), the BLM is expected to determine that installation of the proposed transmission line will have "no adverse effect" on historic properties as defined in regulations for Protection of Historic Properties (36 CFR Part 800). It is expected that the Arizona SHPO will review the documentation and concur with this determination.

No unavoidable adverse impacts to cultural resources are anticipated.

Residual impacts to cultural resources are expected to be negligible.

Alternative B

Same as Alternative A

No Action

No impacts to cultural resources would occur if the no-action alternative is selected.

BIOLOGICAL RESOURCES

Proposed Action

Alternative A

Vegetation and Special Status Plant Species

Impacts to vegetation are anticipated to be minimal along the proposed corridor, where there is already a high level of disturbance to vegetation. In the area of the Crater Range, there may be some loss of grasses and shrubs due to construction. Quilotosa and Tenmile washes could be spanned to avoid the loss of denser vegetation associated with these drainages. There would be some loss of vegetation along the southern portion of the route east of Ajo, but the impacts would be minimal due to the low sensitivity of creosote bush-bursage associations and the low residual loss of plants.

No populations of special status plant species are known to be present along the proposed alignment. Three species with low potential for occurring in the Crater Range are sandpaper plant, copperleaf, and acuna cactus. Numerous other species in the area are protected by ANPL. If located in the area, these plants would be avoided where practicable.

General and Special Status Wildlife Species

Impacts to wildlife would be short term and temporary, lasting only during the construction period. Loss of habitat would be limited to structure sites.

Direct mortality to small mammals and reptiles could occur during construction. Ground clearing for structure placement could result in the removal of habitat for these species including direct removal of nesting or burrowing areas, thermal security or cover, and food source (e.g., seed source, food plant, or prey species). Most small animals are not highly mobile in the sense of being able to temporarily abandon an area, returning when the disturbing activity ceases. There is also potential for direct mortality along travel routes due to vehicle-animal collisions. However, much of the route is adjacent to a highway; therefore, it is likely that such animals already avoid the area to some extent. Structures that offer perch sites for raptors are not likely to result in increased avian predation or collisions since there are existing structures in place.

Mule deer, coyotes, and javelina are mobile and can avoid the area during construction. No important seasonal habitat or birthing areas are present within the study area.

Sonoran pronghorn have been observed within one mile of the study area. A separate biological evaluation has been completed for Sonoran pronghorn. These large mammals are mobile and could avoid the area during construction. Construction would be suspended if Sonoran pronghorn temporarily enter the construction area. Desert tortoise are known to be present at the Crater Range and are active in the spring and summer months. A biological monitor would be present during construction to ensure that no tortoises or Sonoran pronghorn are present in the construction area. Handling protocol provided by AGFD would be followed when moving an individual tortoise from the construction area. No net loss to the quality and quantity of the desert tortoise habitat is anticipated.

Impacts to special status bird species are anticipated to be minimal. There would not be a loss of habitat and the loss of potential prey species would be minimal.

Alternative B

Same as Alternative A.

No Action

No impacts to biological resources would occur if the no-action alternative is selected.

SOCIOECONOMICS

Proposed Action

Alternative A

The primary effects to socioeconomics for the proposed transmission line project include construction period impacts and fiscal impacts to local jurisdictions. It is estimated that 74 workers over a 9- to 12-month period would be utilized to build the proposed transmission line. In general, the communities of Ajo and Gila Bend would experience an increase in employment and income from the project construction. Local hiring would primarily be laborers and depend on skills of the individuals. Other social impacts would include potential short-term impacts from the influx of construction workers, short-term housing or motel use, increased recreation, and other impacts due to construction activities. The effects of the transmission line to the existing social structure and economic activities would be minor. Social impacts would include potential short-term impacts from the influx of construction workers, acquisition of easement, and construction activities. Long-term impacts could include economic effects of operation and maintenance activities and tax revenue from easements through private lands in Maricopa and Pima counties.

Sources of local indirect business taxes from the project would include the sales and use taxes on materials and equipment purchased locally for the project (e.g., fuels, engineering, and other supplies).

Construction and Right-of-way Acquisition Costs

Economic or fiscal impacts were assessed by estimating the potential annual property tax revenues from the project in Gila Bend and Ajo. Project capital costs were estimated by AIC at \$200,000 per mile of new 230kV transmission line, plus the right-of-way land purchase and other acquisition costs. Total project costs are estimated at \$10 million (AIC 1996).

Calculations for tax revenues that would potentially be generated by the project were performed using information supplied by APS. The 1995 composite tax rate paid by APS (\$17.22 per \$100 assessed value for Gila Bend and \$14.06 per \$100 assessed value for Ajo) was used to derive the estimated tax revenue. Based on calculations, the estimated annual projected tax revenue for Maricopa county would be \$11,629 and \$15,599 for Pima County.

Impacts on Minority and Low Income Communities

Presidential Executive Order 12898 (EO 12898), regarding "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requires that each federal agency identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. No disproportionately high or adverse environmental impacts on Native Americans (Tohono O'odham Nation) or minority or low income communities in Ajo and Gila Bend are anticipated to occur from the

proposed action because the proposed project is primarily in a designated utility corridor. Appendix F, Public Contact Information, describes the public contact activities that occurred to ensure that appropriate notification of the proposed project was provided and pertinent input was received.

Alternative B

Potential socioeconomic impacts are the same for Alternative A. Calculations for tax revenues associated with private lands are the same since those areas are common to both alternatives.

No Action

Selection of the no-action alternative would result in loss of short-term economic and employment benefits of transmission line construction. The local community would lose income to small businesses, and potential tax revenues of \$11,629 for Maricopa County and \$15,599 for Pima County would be lost.

EARTH AND WATER RESOURCES

Proposed Action

Alternative A

Earth Resources

Impacts to earth resources for this project are generally related to soils and may include an increase in soil erosion, compaction, and mixing of soil horizons, thereby temporarily reducing soil productivity and reclamation potential. Surface contamination could occur, resulting from accidental spills of petroleum and other potentially hazardous materials. Compaction of soils and mixing of soil horizons is expected to be minimal. Impacts on soils are expected to be minimal provided construction and operation adhere to the project mitigation guidelines. By spanning washes, using existing access roads, limiting surface disturbance, and retaining existing vegetation to the extent practicable, increases in erosion are expected to be minimal and short term. The potential for soil contamination is reduced by requiring prompt removal of petroleum and other hazardous materials. In those areas with desert pavement, minimal surface disturbance would retain the existing desert pavement and reduce the potential for increased surface erosion.

Water Resources

Impacts to water resources could include increased sedimentation or introduction of pollutants that affect water quality. With adherence to mitigation measures, potential impacts on water resources, which are limited to numerous intermittent washes, are expected to be minor. Mitigation includes placement of structures to avoid the 100-year floodplain as well as the washes. Potential impacts to water quality are

also reduced by adherence to mitigation measures to limit surface area disturbance, avoid spillage of petroleum, construction debris, and other hazardous materials on the surface, and promptly clean up any accidental spills. Impacts to water resources are expected to be very minor.

Alternative B

Same as Alternative A.

No Action

No impacts would occur to the earth and water resources if this alternative was chosen.

AIR QUALITY AND NOISE

Proposed Action

Alternative A

The construction phase of the transmission line would include overland access, structure site clearing and installation, conductor pulling, material hauling, and cleanup. Temporary air pollutant emissions to air quality (9 to 12 months) would include fugitive dust from construction activities and nitrogen oxides, carbon monoxide, hydrocarbons, and sulfur oxides from construction equipment exhaust emissions. The proposed transmission line and associated facilities would not generate measurable amounts of regulated air pollutants after completion of construction. Dust control could be accomplished by limiting the amount of traffic, monitoring vehicle speeds on dirt roads during construction, and watering (where necessary). All air pollutant emissions are temporary and would disperse quickly.

Impacts to ambient noise would be similar, increasing primarily during the construction phase. Noise impacts would be limited to working hours. After completion of construction, noise impacts would be limited to vehicles used for periodic maintenance activities.

Alternative B

Same as Alternative A.

No Action

No impacts to air quality or noise would result from this alternative.

CUMULATIVE EFFECTS

The anticipated cumulative impacts associated with the Gila Bend to Ajo 230kV Transmission Line Project are those that would result from the incremental impact of the proposed action when added to the past, present, and reasonably foreseeable future projects within the study area. The study area is predominantly undeveloped, consisting of open range and low mountainous terrain. Urban areas include the incorporated city of Gila Bend and the unincorporated city of Ajo. Prominent cultural modifications located in the study area are military facilities associated with the BMGR and PDAI Mine. Several other less distinct cultural modifications identified include subtransmission lines, pipelines, highways, and railroads, as well as communication and industrial facilities.

Construction of the proposed transmission line along State Route 85 would introduce another structure to the landscape. However, the proposed transmission line would be located in an existing BLM utility corridor, which is designated for such activities. A description of the past, present, and reasonably foreseeable future projects is provided in Table 1.

The following sections describe the anticipated cumulative effects associated with the Gila Bend to Ajo 230kV Transmission Line Project for each resource. Because an analysis of cumulative impacts depends largely on examining other non-related projects, each section includes a discussion of the anticipated indirect impacts from reasonably foreseeable future projects as well.

Land Use Resources

Cumulative impacts to land use resources from this project along with other projects are expected to be minimal. Impacts generally would be associated with the permanent allocation of public and private lands to utility right-of-way easements. These impacts are considered direct and long term and could affect current and future uses of lands crossed by the proposed action. Small areas of rangeland used for grazing and forage could be damaged from overland access, structure installation, and tension pulling activities. Though these impacts would accumulate with each successive project, the total area lost from production is very small in the context of the region.

There are numerous existing transmission lines, distribution lines, and other linear facilities throughout the study area. Increased access due to construction and the presence of the transmission line right-of-way could cause indirect impacts to wildlife habitat, existing vegetation, and cultural resource sites located near the route selected.

The reopening of the PDAI Mine and the opening of the Hickiwan Casino/convenience store would increase recreational use in the study area based on the labor force required to operate the mine and additional tourists that will visit the casino. However, the cumulative impact on recreation areas in the vicinity of the study area is anticipated to be low due to the vast availability of other BLM lands nearby for recreational purposes.

**TABLE 1
CUMULATIVE PROJECTS IN THE GILA BEND TO AJO
230kV TRANSMISSION LINE PROJECT STUDY AREA**

Project Type	Location	Description	Area/Length (approximate)
Past Projects			
El Paso Natural Gas Pipeline	Ajo to Casa Grande	8-inch natural gas buried pipeline	82 miles
Gila Bend to Ajo 69kV subtransmission line	Gila Bend to north of Ajo	69kV single wooden pole subtransmission line	41 miles
Ajo to Why 69kV subtransmission line	North Ajo to Why	69kV single wooden pole subtransmission line	16 miles
Gila Bend to Liberty 230kV transmission line	Gila Bend to Liberty	230kV transmission line	44 miles
30-inch water main	Ajo to Childs	supplies water for Ajo from drilled wells	6 miles
Present Projects			
Hickiwan Casino/ convenience store	Sells, Arizona on the Tohono O'odham Indian Reservation	development and operation of a casino/convenience store facility	220 acres
BMGR withdrawal	BMGR	Luke Air Force Base's current 20-year withdrawal terminates in the year 2001; new lease is being actively pursued	4,163 square miles
Future Projects			
PDAI Mine reopening	Ajo	Phelps Dodge plans to reopen the PDAI Mine; the reopening will require the construction of new crusher and concentrator facilities to produce concentrate to be smelted in New Mexico	within existing mine area boundaries
Santa Rosa to Gila Bend 230kV Transmission Line	Gila Bend to Santa Rosa follows Maricopa Road majority of route	The Certificate of Environmental Compatibility has been issued and right- of-way acquired; per the 10-year plan, the anticipated construction date is 2005	80 miles
State Route 85 improvements	from junction of Gila Bend to Ajo	widen and upgrade SR 85 from two lanes to four lanes	uncertain

Visual Resources

Implementation of the proposed project could have direct and long-term impacts to visual resources. Impacts are likely to occur in locations where construction of the proposed project would affect undisturbed landscapes, in close proximity to sensitive viewers (e.g., residences), and along areas where additional development is proposed. Cumulative impacts also could result from additional cultural features added to the viewing environment (i.e., the future Santa Rosa to Gila Bend 230kV Transmission Line). Other projects will likely impact visual resources as well. In Ajo, the reopening of the PDAI Mine will create additional visual impacts on the landscape. It is anticipated that the proposed mining activities will increase the height and mass of the existing developmental rock piles resulting in more visible landforms. Also, lighting from night mining operations potentially could impact adjacent residences. It is not known at this time what location or level of lighting is required.

Cultural Resources

The proposed line will cross the BMGR which has an estimated 13,500 archaeological sites. Therefore, minor cumulative impacts to cultural resources are anticipated in the sense that data from a few sites could be recovered, thus slightly negatively affecting their overall integrity.

As for other foreseeable future projects, installation of new concentrator facilities at the PDAI Mine to replace the old facilities, which have been removed, probably will not significantly affect historic aspects of the mining complex because there has been incremental developmental modification throughout its 100+ year existence. The historic Tucson, Cornelia, and Gila Bend Railroad will be used during construction and thereafter to haul concentrate when the concentrator is in operation. This railroad has been in continuous use since its construction, and thus is periodically maintained. The maintenance, which can affect crossings, rails, ties, and bedding and ballast, is expected to continue, but probably will not be regarded as a significant impact because (1) the workmanship and material integrity of the property have already been affected; and (2) attributes including location, design, setting, feeling, and association should not be affected.

The proposed project, along with other foreseeable future projects, should not have significant cumulative impacts to cultural resources in the study area.

Biological Resources

The cumulative impacts to biological resources in the study area are expected to be minimal. The use of existing access roads, overland construction, and the location of the proposed project within ADOT right-of-way (previously disturbed) would result in no loss of habitat to the Sonoran pronghorn, desert tortoise, and other special status wildlife species. Future projects also are anticipated to have minimal cumulative impacts on vegetation and wildlife species. The reopening of PDAI Mine and associated facilities (e.g., railroad) are proposed on previously disturbed lands at the mine. The increased use of auto and rail associated with the mine would present minimal risk of direct mortality to the Sonoran pronghorn or desert tortoise based on (1) the location of the highway and railroad (approximate eastern boundary

identified for Sonoran pronghorn habitat), and (2) the historical lack of direct mortality of Sonoran pronghorn and desert tortoise species from auto or rail in the study area. The Hickiwan Casino/convenience store would impact previously undisturbed Sonoran desert scrub habitat, although the impact would be minimal from a cumulative perspective. It is assumed that projects built on federal, state, or private lands will adhere to agency and jurisdictional rules and regulations requiring mitigative measures and construction guidelines protecting the environment from adverse impacts.

Socioeconomic Resources

The proposed project, along with other foreseeable projects, should improve the economy of the towns within the study area (primarily Ajo). The proposed project would have positive short-term economic impacts to the communities of Gila Bend and Ajo through the sale of local goods and services. Specifically, it is anticipated that the construction work force will require lodging and services that can be provided by the local communities. The reopening of the PDAI Mine and the opening of the Hickiwan Casino/convenience store would have positive long-term impacts to the communities of Gila Bend, Ajo, Why, and Sells. These projects will provide jobs for the local population, as well as create an increased tax base and subsequent improved services for the communities. The housing markets in Gila Bend and Ajo are also anticipated to increase in rentals and new units due to the projected labor force required for the mine reopening.

Potential negative effects may include those associated with infrastructure demands on law enforcement, medical services, and water and wastewater facilities. In addition, an increase in traffic and light pollution are anticipated as well as change of the non-mining economy.

Earth Resources

The cumulative impacts to earth resources are expected to be minimal. It is assumed that projects built on federal, state, or private lands will adhere to agency and jurisdictional rules and regulations requiring mitigative measures and construction guidelines protecting the environment from adverse impacts. The construction of the proposed project would result in only minor incremental increases in soil erosion. These increases would typically be short term in nature, primarily limited to the construction period and a short period (up to several years) as vegetation is reestablished. The cumulative impacts from the mine reopening project are anticipated to be minimal. The surfaces that would be mined are located on previously disturbed sites, as are the locations for the development rock stockpiles. The proposed project combined with other future projects foreseeable at this time should result in negligible cumulative effects on earth resources.

Water Resources

The cumulative impacts to water resources in the study area are expected to be minimal. Projects requiring construction in or near floodplains, springs, and surface water conveyances would adhere to agency and jurisdictional rules requiring mitigative measures and construction guidelines protecting the

environment from adverse impacts. Increases in sedimentation during or immediately following construction are likely to be minor and only occur until vegetation is reestablished. With the reopening of the PDAI Mine and the opening of the Hickiwan Casino/convenience store, there would be potential for an increase in water pollution and a greater demand for water resources. Future projects would adhere to water quality permits administered by the state including the Aquifer Protection Permit, CWA Section 402 National Pollutant Discharge Elimination System Stormwater Permit (Construction and Operation), Well Construction Permit, Wastewater Reuse Permit, and Approval to Construct and Operate Water and Wastewater Facilities.

Air Quality

Air quality impacts could occur within the study area as a result of future development. However, the incremental effects that result from the proposed project would have no significant level of cumulative impact. Impacts would be difficult to evaluate because the variables of other future projects are undetermined at this time. It is anticipated that there would be increased air emissions from the mine reopening and associated facilities (e.g., the railroad). An existing smelting facility (with available capacity) in New Mexico will be used for the mine operation, diminishing impacts to air quality in the study area. Additional emissions would be attributed to autos from mine workers and individuals going to the casino. Future projects would have to adhere to air quality permits administered by the state (e.g., Class II Air Quality Control Permit). This proposed project would add minimal impacts to overall air quality in the area.

Noise

The proposed project would have negligible cumulative impacts to existing noise conditions. The reopening of the PDAI Mine and associated facilities (e.g. railroad and truck hauling on site) would mean increased noise impacts to the local community, but the proposed noise levels are not anticipated to exceed levels from previous mining operations. The proposed project would not contribute to any overall increase in noise impacts.

CHAPTER 5 - CONSULTATION AND COORDINATION

AGENCIES, TRIBES, AND ORGANIZATIONS CONSULTED

Federal

U.S. Air Force Luke Force Base
Luke Air Force Base, Arizona

U.S. Department of Agriculture
Natural Resources Conservation Service
Arizona State Office, Phoenix, Arizona
Buckeye Field Office, Buckeye, Arizona

U.S. Border Patrol
Phoenix, Arizona

U.S. Department of Interior
Bureau of Land Management
Arizona State Office, Phoenix, Arizona
Phoenix Field Office, Phoenix, Arizona
Yuma Field Office, Yuma, Arizona
Fish and Wildlife Service
Phoenix, Arizona Office
Cabeza Prieta National Wildlife Refuge
Ajo, Arizona
National Park Service
Organ Pipe National Monument,
Ajo, Arizona

U.S. Marine Corps
Marine Corps Air Station Yuma
Yuma, Arizona

Federal Aviation Administration
Los Angeles, California

Native Americans

Ak-Chin Indian Community
Maricopa, Arizona

Gila River Indian Community
Sacaton, Arizona

Hia Ced O'odham Alliance
Glendale, Arizona

Hopi Tribe
Kykotsmovi, Arizona

Salt River Pima Indian Community
Scottsdale, Arizona

Tohono O'odham Nation
Sells, Arizona

State

Arizona Department of Commerce
Population Statistics Unit, Phoenix, Arizona

Arizona Department of Economic Security
Phoenix, Arizona

Arizona Department of Transportation
Roadside Development, Phoenix, Arizona
Highways Division, Phoenix, Arizona

Arizona Game & Fish Department
Phoenix, Arizona
Yuma, Arizona

Arizona State Historic Preservation Office
Phoenix, Arizona

Arizona State Museum
University of Arizona, Tucson, Arizona

Arizona State University
Department of Anthropology, Tempe, Arizona

City and County

Ajo Municipal Airport
Pima County
Ajo, Arizona

Maricopa County
Planning and Development Department
Phoenix, Arizona

Pima County
Development Services Department
Tucson, Arizona

Pima County
Assessors Office
Tucson, Arizona

Town of Gila Bend
Gila Bend Planning Commission
Gila Bend, Arizona

Other

Arizona Public Service
Phoenix, Arizona

El Paso Natural Gas
Casa Grande, Arizona

Friends of the Cabeza Prieta
Tucson, Arizona

Land and Water Fund
Boulder, Colorado

Others (continued)

Sierra Club
Rincon Group
Tucson, Arizona

Southwest Gas Company
Casa Grande, Arizona

June D. Marcus
Ajo, Arizona

Eric B. Marcus
Ajo, Arizona

Kord M. Klinefelter
Ajo, Arizona

Carol M. Klinefelter
Ajo, Arizona

Henrietta Daniels
Ajo, Arizona

Richard E. Daniels
Ajo, Arizona

Barbara and Marvin Silva
Ajo, Arizona

Bill Broyles
Tucson, Arizona

APPENDICES

APPENDIX A
REFERENCES

APPENDIX A - REFERENCES

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